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**ENHANCING KENTUCKY'S TRANSPORTATION
FUNDING CAPACITY
A REVIEW OF SIX INNOVATIVE FINANCING OPTIONS**





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KENTUCKY TRANSPORTATION CENTER

176 Raymond Building
University of Kentucky
Lexington, Kentucky 40506-0281

(859) 257-4513
(859) 257-1815 (FAX)
1-800-432-0719
www.ktc.uky.edu
ktc@engr.uky.edu

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**Research Report
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**Enhancing Kentucky's Transportation Funding Capacity:
A Review of Six Innovative Financing Options**

by:

Merl Hackbart
Professor of Finance & Public Administration

Juita-Elena (Wie) Yusuf
Research Assistant

Michael J. Moody
Research Assistant

Candice Y. Wallace
Research Assistant

Kentucky Transportation Center
College of Engineering
University of Kentucky
Lexington, Kentucky

in cooperation with
Transportation Cabinet, Commonwealth of Kentucky

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16. Abstract Kentucky faces several challenges in meeting the funding needs for its transportation infrastructure. The state currently relies on a revenue stream based on road user taxes and fees. However, the structure of these taxes and fees are such that revenues have not kept up with the growth in the number of licensed drivers and motor vehicle travel. In addition, inflationary pressures, coupled with the Road Fund's low growth rate, have diminished the purchasing power of Road Fund revenues. It is increasingly clear than Kentucky will not be fiscally capable of meeting its transportation investment needs if steps are not taken to address current revenue trends. Traditional financing mechanisms have not proven adequate to meet the state's current transportation needs. Knowing the options available to enhance current revenues can assist policymakers in making critical policy decisions needed to ensure continuing adequacy of funds to meet the demands of the state's transportation system. Because of the myriad of transportation funding options available to states, knowledge of the options and an understanding of how these options can be used for efficient transportation financing is a complex undertaking. This study was designed to provide such desired information. This report identifies and investigates six innovative finance options that could potentially be used to mitigate Kentucky's funding challenges. These innovative finance options are reviewed and an explanation of each option, discussion of advantages and disadvantages, estimate of potential revenue that could be generated, and review of implementation needs are discussed. The six innovative finance options summarized in this report are: (a) adjust the indexing formula for the motor fuel tax; (b) eliminate tax expenditures to increase Road Fund revenue; (c) impose usage tax on motor vehicle repair parts and labor; (d) establish a supplemental vehicle enforcement fee to create a Motor Vehicle Safety Enhancement Fund; (e) use tax increment financing for local transportation projects; and (f) utilize tolling to construct, maintain and operate new roads and bridges.			
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EXECUTIVE SUMMARY

Kentucky faces several challenges in meeting the funding needs of its transportation infrastructure. The slow growth of Road Fund revenue for transportation projects has not kept pace with funding needs. Motor fuels taxes and usage taxes are the major funding sources for Kentucky's Road Fund. The adequacy of motor fuels tax revenues has diminished thanks to improvements in vehicle fuel efficiency and static gas tax rates. At the same time, usage taxes, while more responsive to the increasing number of drivers and vehicle purchases, have not kept pace with funding needs. Funding shortages have resulted in many transportation projects not being undertaken or delayed.

It is increasingly clear that Kentucky will be unable financially to meet its transportation infrastructure financing needs if no steps are taken to address current revenue trends. This project identified and investigated innovative financing options that could potentially be used to mitigate these funding challenges. The research team initially created a list of innovative transportation financing options. This list comprised of those financing strategies used by other state departments of transportation (DOTs) and other state agencies, in addition to other alternatives identified by the research team. The summary guide that briefly discusses these initial innovative financing options is included in Appendix A. Based on the information provided in the summary guide, the Study Advisory Committee selected six innovative finance options for further in-depth analysis. This report discusses those six innovative finance options and addresses various aspects of their potential implementation. It provides an explanation of each option, discussion of advantages and disadvantages, and in some cases, estimates of the potential revenue stream that could be generated.

The six innovative finance options summarized in this report are listed below:

- **Adjust the indexing formula for the motor fuel tax** to keep pace with inflation and to account for changing vehicle fuel efficiency. The motor fuel tax indexing formula discussed as an option in this report would be related to changes in the CPI (as a measure of inflation) and/or changes in motor fuel consumption (as a proxy for vehicle fuel efficiency). The new indexing formula will provide a means for maintaining the purchasing power of motor fuel tax revenues and will allow for greater stability of the revenue streams.
- **Eliminate tax expenditures to increase Road Fund revenue.** This innovative financing option considers the fiscal impact associated with the elimination of tax expenditures that reduce Road Fund revenues. These tax exemptions and special tax treatments currently erode the Road Fund tax base; their elimination and subsequent inclusion as Road Fund revenues would enhance the funding available for transportation infrastructure projects. The two main tax expenditures categories discussed as having potential for inclusion in this broadening of the Road Fund tax base are the motor vehicle usage tax and motor fuels tax.
- **Impose usage tax on motor vehicle repair parts and labor.** This financing option significantly enhances Road Fund revenues by imposing a usage tax on automotive repair parts and accessories as well as on the labor involved in automotive repair. This would add stability to the Road Fund, since it is countercyclical with vehicle purchase trends, thus providing supplemental revenue during periods of economic downturn when fewer new vehicles are purchased but more repairs are needed. Currently, motor vehicle parts are

subject to sales tax. Imposition of the usage tax would therefore reduce some of the sales tax revenues directed into the General Fund; instead it provides additional revenue for the Road Fund.

- **Establish a supplemental vehicle enforcement fee to create a Motor Vehicle Safety Enhancement Fund.** This option would create a supplemental fee imposed on all motor vehicle violations as an add-on to the existing fines. Revenues from this supplemental fee could be used to establish a Motor Vehicle Safety Enhancement Fund that could then be used to finance some portions of the Kentucky State Police operations.
- **Use tax increment financing for local transportation projects.** Tax increment financing (TIF) can be used to pay for some local transportation improvement projects if they contribute to local economic development and generate additional incremental tax revenue. This report discusses options for the Transportation Cabinet to partner with city and/or county governments where such improvements would take place and utilize joint financing for all transportation-related TIF projects.
- **Utilize tolling to construct, maintain and operate new and existing roads and bridges.** One alternative financing option is for tolling to be used for new roads and bridges since there is often less resistance to tolls on new roads than there is to tolls on existing roads. The most likely candidates would be large bridges and highly traveled limited access highways. Highway or bridge improvements – such as limited access lanes – are also potential candidates for tolling.

The first two innovative transportation finance options – adjusting the indexing formula for the motor fuel tax and eliminating Road Fund tax expenditures – enhance overall Road Fund revenues by recouping revenues that would otherwise not have been collected, either because of erosions in purchasing power or due to tax credits or exemptions. Imposing a usage tax on motor vehicle repair parts and labor and establishing a supplemental vehicle enforcement fee and Motor Safety Enhancement Fund, on the other hand, are new taxes or fees that could generate new revenue streams for the Road Fund. The latter two options, on the other hand, can be applied to the financing of specific local transportation improvements projects or projects that are conducive to tolling. Combined, these options represent tools that can be incorporated into Kentucky’s financing strategy matrix to preserve and extend existing revenue sources, create new revenue streams, or introduce other payors into the mix.

Several options stand out as feasible solutions to Kentucky’s transportation funding challenges. Adjusting the gas tax indexing formula and using tolls for new projects appear to be the two options with most potential. The new indexing formula would maintain the purchasing power of motor fuel tax revenues and enhance the stability of the revenue streams. Tolling, on the other hand, would better integrate the concept of the ‘user pays’ into the state’s financing matrix. If the state is interested in creating a new revenue stream, it could pursue the supplemental motor vehicle enhancement fee option. However, a more in-depth feasibility study should be undertaken before this option is seriously considered. Options that impact the General Fund’s revenue, such as imposing a usage tax on vehicle repair parts and labor, may not be very popular. Tax increment financing has been used in Kentucky to finance economic development projects. However, given the uncertainty surrounding its use, it is possible that the Transportation Cabinet may end up paying for most of the transportation improvement projects’ costs if the incremental revenues fail to materialize.

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- Mike Hancock (State Highway Engineer's Office)
- Taylor Manley (Office of Budget and Fiscal Management)
- Bruce Siria (Planning)
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Their guidance and involvement in selecting the options for the in-depth analysis included in this report has greatly shaped the research direction taken in this study. Their review of this report and their final input has provided more depth and clarity to our analysis.

CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 Transportation Funding Challenges

Kentucky, like many other states, is facing a growing challenge in meeting the funding needs of its transportation improvement projects. As the primary providers of the public road system, state and local governments rely on a revenue stream based on road user taxes and fees. However, the structure of these taxes and fees are such that revenues have not kept up with both the growth in the number of licensed drivers and the growth in motor vehicle travel. These limited financial resources have imposed, and will continue to impose, constraints on the transportation infrastructure improvements required to maintain the state's roadways. Anticipated revenues have been insufficient to fund projects on the state's Six Year Plan. As a result, many desirable transportation projects have not been undertaken, while other needed projects have been delayed.

Kentucky has traditionally relied on conventional methods for financing its transportation infrastructure. Since the 1920s, the Kentucky Road Fund has been the predominant revenue source for highway construction and maintenance. Between 1965 and 2000, Road Fund revenue paid for at least two-thirds of all highway expenditures in the Commonwealth of Kentucky, with federal and local funds contributing the remainder (Mitchell & Hackbart 2001). The Road Fund is made up of a variety of road user charges, including taxes, fees, licenses, permits, tolls, and special service charges. Two taxes – the motor fuel tax and the motor vehicle usage tax – account for over three-fourths of Road Fund revenue. In 2000, Kentucky's Road Fund revenue was \$1.05 billion. Motor vehicle usage fees accounted for approximately 38% of this revenue and motor fuel taxes accounted for 40% (Hackbart et al. 2002). In 2004, Road Fund revenues totaled \$1.08 billion, of which 40% and 42% were from motor vehicle usage fees and motor fuel taxes, respectively (Kentucky Transportation Cabinet 2005).

The contributions of revenue from the motor fuel tax and the motor vehicle usage tax have changed substantially over the last thirty years. The percentage contributed by the vehicle usage tax has increased largely due to the rising costs of vehicles, whereas the motor fuel tax has stagnated, in part due to rapidly improving vehicle fuel efficiency. Continually evolving technology, which produces innovative hybrid and electric cars, in addition to rapidly rising gas prices, have encouraged citizens to use more fuel efficient means of transportation. Given the current structure of Kentucky's Road Fund, these trends could continue to diminish the ability of the Road Fund to provide for the state's transportation investment needs. Simply because a car is more fuel efficient does not mean that it does not impose as much wear and tear on the roadways as do less fuel efficient models. Thus, less revenue is being generated by the motor fuel tax to cover the amount of damage to the roadway by fuel efficient cars. If trends continue, revenue generated by the motor fuel tax will be insufficient to meet citizen demands for better and safer roads and highways.

Despite raising the motor fuel tax in 1986 by 50% (from 10 cents per gallon to 15 cents per gallon) and the usage tax rate by 20% in 1990 (Mitchell & Hackbart 2001), revenue generated from these two sources has not grown sufficiently to meet current demand. In addition, the

recent increases (to 17.4 cents per gallon in 2004 and 18.5 cents per gallon in 2005) in the motor fuel tax rates (due to indexing) may not be sufficient to overcome such challenges. Usage tax revenues have also risen in real terms, but have not maintained their purchasing power over the years (Mitchell & Hackbart 2001). There are more drivers on Kentucky's roadways than ever before and construction needs are increasing at a faster rate than revenues available.

Federal Highway Administration (FHWA) statistics indicate that there were 2.7 million drivers in Kentucky in 2000, compared to 2.8 million drivers in 2003 (*FHWA Highway Statistics 2000*, Table DL-22; *FHWA Highway Statistics 2003*, Table DL-22). This represents an increase of 4% between 2000 and 2003. The number of vehicles registered in the state has also increased. There were 2.8 million registered vehicles in 2000 (*FHWA Highway Statistics 2000*, Table MV-1) and 3.4 million registered vehicles in 2003 (*FHWA Highway Statistics 2003*, Table MV-1) representing a 21% increase.

The growth in Road Fund revenues for the same period pale by comparison. The FHWA's *Highway Statistics 2003* reported Kentucky's receipts from highway user revenues at \$1.07 billion (Table SF-1). Comparing this to the receipts for 2000 of \$1.05 billion (*FHWA Highway Statistics 2000*, Table SF-1) indicates an increase of only 2%.

On top of this low growth rate, inflationary pressures have also diminished the purchasing power of Road Fund revenues. Between 2000 and 2003, the Federal-Aid highway user price construction index (FHWA Office of Program Administration)¹, using 1987 as the base year, varied between 136.5 (second quarter 2001) and 161.6 (first quarter 2003). The annual rate of change for this highway construction price index was calculated to be approximately 3%, between 1999 and 2003. The consumer price index, on the other hand, was 172.2 in 2000 and 184.0 in 2003, representing a 7% increase over the entire period (source: Bureau of Labor Statistics)². As Figure 1.1.1 shows, the growth in Kentucky's Road Fund revenues has not kept pace with growth in the CPI.

Due to the lack of adequate revenues in the Road Fund, many projects on Kentucky's Six Year Plan have remained unfinished, while others remain underfunded. If trends continue – increases in road usage, fuel efficient vehicles, gas prices, and construction prices – even fewer funds will be available for future use. Clearly, current financing strategies no longer provide viable means for ensuring the adequacy of Kentucky's transportation infrastructure.

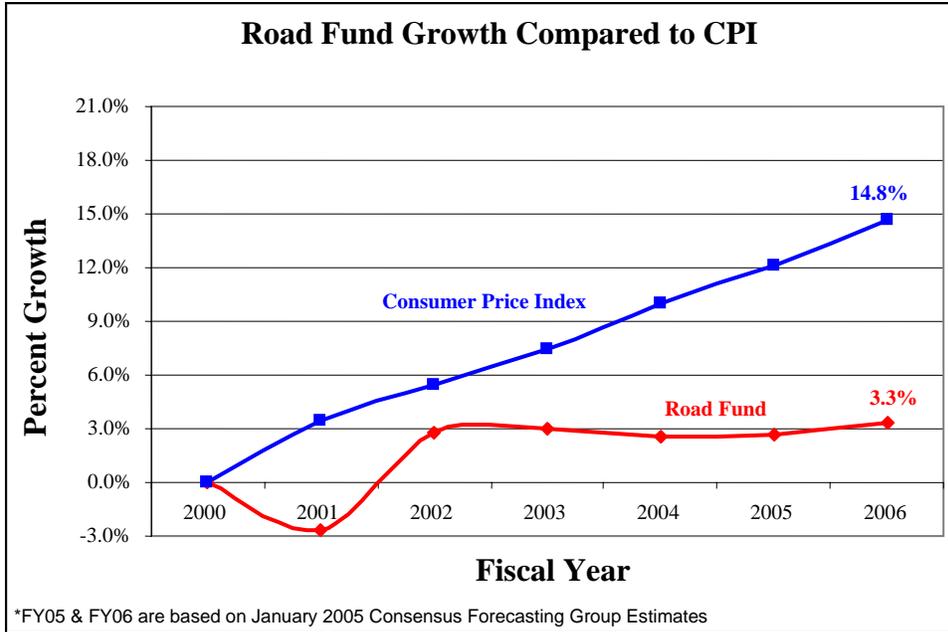
The stagnant motor fuel tax revenues and the lower Road Fund revenue growth rate have limited the Transportation Cabinet's ability to meet the state's transportation construction and maintenance needs. It is clear that Kentucky will soon face significant hurdles if no steps are taken to address these challenges. The question that needs to be answered is: what can be done to address the current funding challenges? The solution is not to replace entirely the motor fuel tax as the primary revenue source for transportation projects. Instead, the state ought to look at how it can supplement the motor fuel tax revenues with revenue from other innovative financing options. This project, therefore, seeks to identify the possible options that have

¹ <http://www.fhwa.dot.gov/programadmin/pt2003q4.htm>

² Table of historical CPI-U U.S. for all items (1913 to present) <ftp://ftp.bls.gov/pub/special.requests/cpi/cpiiai.txt>

potential for adoption by the Kentucky Transportation Cabinet as a means of introducing new revenue streams to financially support the state’s transportation system.

Figure 1.1.1 Growth Rate of the Road Fund Compared to the CPI



Source: Kentucky Transportation Cabinet Office of Budget and Fiscal Management

Traditional financing mechanisms are not adequate to meet the state’s current transportation needs. Knowing the options that are available to enhance current revenues can assist policymakers in making critical policy decisions needed to ensure continuing adequacy of funds to meet the demands on the state’s transportation system. Because of the myriad of transportation funding options available to states, knowledge of the many options and an understanding of how these options can be used for efficient transportation financing is a challenging undertaking. This study was designed to provide such information. This report provides information on several innovative transportation finance alternatives that have the potential for application in Kentucky.

1.2 Research Problem

The purpose of this study is to identify and analyze innovative financing options that can be added to Kentucky’s current transportation financing strategies to (a) enhance funding of the state’s transportation infrastructure, or (b) modify the Transportation Cabinet’s current financing structure to make it more responsive to transportation needs. The innovative financing options researched came from other states’ transportation financing strategies, financing alternatives available from the federal government, financing options used by other economic development agencies, and other novel financing methods.

1.3 Research Strategy

This section discusses the approach used in this study to address the research question. Given the different types of transportation financing needs, the topic was approached from two research perspectives. The first perspective involved identifying project specific funding options. Transportation infrastructure projects often involve separate and distinct projects for which funding needs are punctuated and not smooth. On the other hand there are mainstream transportation needs such as administration and maintenance that require the establishment of a general resource base from which to fund these non-project specific needs. The research strategy involved identifying innovative options relevant from both financing perspectives.

1.4 Research Tasks

Research for this project was undertaken in 2004-2005. This research involved four tasks. These tasks were:

Task 1: Identification of Innovative Transportation Finance Options

The project began with the preparation of an initial list of alternative financing options based on (1) revisions or changes to existing taxes or user fees; (2) existing options used by other state Departments of Transportation; (3) options made available by the federal government; (4) options used by other state departments or agencies; and (5) other alternatives identified by the research team. These innovative finance options were categorized as either revenue enhancing options or project financing options. This list is presented in Table 1.4.1.

Task 2: Update Report to Study Advisory Committee

A Summary Guide of the Innovative Transportation Finance Options was prepared and presented to the Study Advisory Committee. This summary guide included a description of each option, a discussion of the advantages and disadvantages, and information on implementation. The summary guide is included as Appendix A. The information presented in the summary guide was used to assist the Study Advisory Committee in selecting six options for further in-depth analysis.

Task 3: Selection of Transportation Finance Options with Potential for Adoption in Kentucky

In a meeting with Advisory Committee members, the initial list was pared down to six options which were identified for further analysis. The selection was made according to two criteria: (1) conceptual viability; and (2) potential for adoption.

The options selected were:

1. Indexing of current motor fuel tax
2. Tolls on current and new roads
3. Usage tax on motor vehicle parts and labor
4. Supplemental motor vehicle enforcement fee

- 5. Eliminate Road Fund tax expenditures
- 6. Tax increment financing

Table 1.4.1 Initial List of Innovative Transportation Finance Options

REVENUE ENHANCING OPTIONS	PROJECT FINANCING OPTIONS
<ul style="list-style-type: none"> ▪ Enhanced Vehicle Registration and Driver Licensing Fees ▪ Index Current Motor fuel Tax ▪ Convert Per Gallon (Excise Tax) Motor fuel Tax to Pro-rata Tax Based on Sales Price ▪ Impose Tolls on Existing Highways ▪ Congestion Pricing ▪ Vehicle Miles Traveled (VMT) Tax ▪ Privatization of Rest Area Facilities – Leasing Rest Areas for Commercial Activities (Fuel, Food, Travel Support, etc.) ▪ Emission Fees ▪ Usage Tax on Vehicle Parts Sales and Labor ▪ Instituting Goods Arrival and Distribution Fee (piggy-backed transit fee on the sales tax) ▪ Establish a Supplemental Vehicle Enforcement Fee (Motor Vehicle Safety Enhancement Fee) ▪ Eliminate Current Tax Expenditures (eliminate exemptions and special tax treatments) ▪ Merge Road Fund into General Fund 	<ul style="list-style-type: none"> Supplemental Project Funds <ul style="list-style-type: none"> ▪ Project Tolls ▪ Tax Increment Financing for Specific Projects Accelerating Projects <ul style="list-style-type: none"> ▪ Grant Anticipation Revenue Vehicles (GARVEEs or GANs) ▪ Transportation Infrastructure Finance and Innovation Act (TIFIA)

Source: Innovative transportation finance options identified by the research team.

Task 4: In-depth Analysis of Selected Innovative Financing Options

This task involved in-depth investigation of the feasibility and viability of the six innovative finance options identified in Task 3. This in-depth analysis was guided by specific evaluation criteria. These criteria, summarized in Table 1.4.2, were derived both from standard tax policy analysis and from similar transportation financing studies (Whitty 2003; Ruffolo & Bertini 2003; Hackbart et al. 2002; Adams et al. 2001; Clary et al. 2001; Reno & Stowers 1995; Washington Blue Ribbon Commission on Transportation 2000).

Table 1.4.2 Evaluation Criteria Used to Analyze Innovative Transportation Finance Options

<p>Adequacy</p> <ul style="list-style-type: none"> - Revenue yield relative to implementation investment requirements. - Responsiveness to inflation. - Responsiveness to growth in income. - Responsiveness to road usage. - Predictability and stability: ensure that funding sources are predictable and stable over time.
<p>Equity</p> <ul style="list-style-type: none"> - Equity by geographical area. - Equity across different vehicle classes. - Equity by income group.
<p>Efficiency</p> <ul style="list-style-type: none"> - User fees that ensure that those who use and benefit from the system pay for it.
<p>Simplicity and Effectiveness of Administration</p> <ul style="list-style-type: none"> - Ease of revising fees or tax rates when funding needs increase - Collection and administration - Compliance - Enforcement - Evasion
<p>Implementation</p> <ul style="list-style-type: none"> - Ease of implementation - Implementation costs

Source: Criteria for evaluating innovation transportation finance options as identified by the research team.

1.5 Structure of the Report

The summary guide that concluded Tasks 1 and 2 is presented in Appendix A. This report summarizes the work done since the completion of Task 2. During Task 3, the Study Advisory Committee selected 6 options for in-depth analysis (Task 4). This report presents the findings of this analysis. The innovative transportation financing options analyzed in Task 4 can be categorized as either revenue enhancing or project specific financing. Chapter 2 discusses the four revenue enhancing options and chapter 3 discusses the two project specific financing options. Chapter 4 summarizes the research findings and concludes the report.

CHAPTER 2: REVENUE ENHANCING INNOVATIVE FINANCE OPTIONS

This chapter presents four innovative financing options targeted at enhancing Kentucky's Road Fund revenue base. Each option is unique in how it contributes to this revenue enhancement. The first option, adjusting the indexing formula for the motor fuel tax, augments the motor fuel tax revenue component of the Road Fund. It does so by ensuring the adequacy and stability of the motor fuel portion of the revenue stream over the long run. The second option of eliminating Road Fund tax expenditures, on the other hand, would return to the Road Fund those tax revenues that are currently exempt from taxation or subject to special tax treatments. Similarly, imposition of a usage tax on vehicle repair parts and labor also adds to the Road Fund those tax revenues that are currently foregone because repair parts are subject to the sales tax (contributing to the General Fund) and labor is not taxed. The final option, establishment of a supplemental vehicle enforcement fee and a Motor Vehicle Safety Enhancement Fund, creates a new fee structure to fund the Kentucky State Police operations through a new revenue source.

2.1 Adjust the Indexing Formula for the Motor Fuel Tax

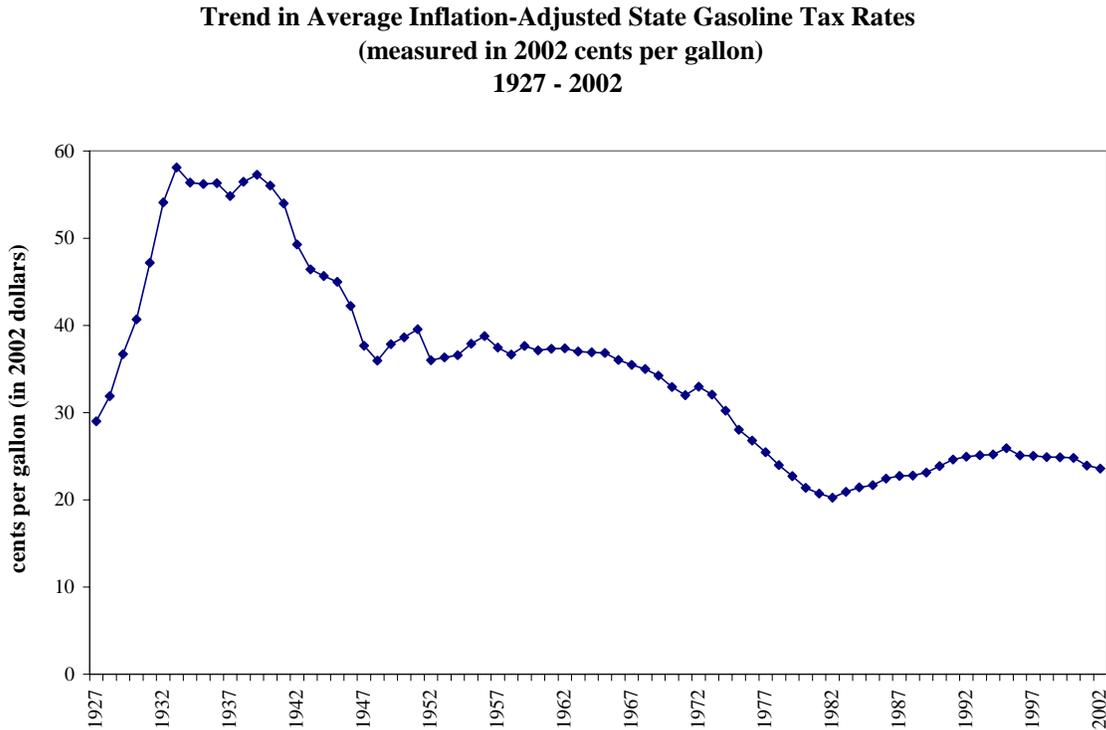
The motor fuel tax or gas tax is generally considered a road user fee. Motorists or road users are charged a per gallon fee on their gasoline purchases, which in return entitles them to use the roads. The general purpose of the motor fuel tax is to provide revenue for roadway construction and maintenance and the provision of other roadway services. In 2001, the motor fuel tax or gas tax accounted for 59% of the federal highway revenues and 42% of state highway revenues (Puentes & Prince 2003). For Kentucky, the gas tax contributed to 27% of the state's highway revenues (Puentes & Prince 2003).

Historical analysis, however, have shown that motor fuel tax rates have not kept pace with inflation and the improvements in vehicle fuel efficiency. This has contributed to the decline in both the gas tax revenue and the buying power of that revenue, relative to the growth in vehicle travel (Puentes & Prince 2003, Ang-Olson et al. 2000, etc.). In other words, the inflation-adjusted value of motor fuel taxes per vehicle mile has declined significantly over the last few years. This trend can be seen in Figure 2.1.1, which shows the real motor fuel tax rates over the past 75 years.

After years of steady growth, both federal and state gas tax receipts have plateaued. In the meantime, inflation has significantly diminished the purchasing power of the relatively stable nominal motor fuel tax revenues. Many other taxes, such as sales or property taxes, maintain their productivity in the face of inflation because the tax base rises with inflation. The motor fuel tax, however, being levied on a per gallon basis, does not respond to inflationary pressures. To exacerbate this decline in real value, the cost of materials used in transportation projects and the cost of land for transportation facilities have typically risen faster than the general rate of inflation (Ang-Olson et al. 2000). Twenty-eight states have increased their gas tax rates since 1992, but only 3 have increased them enough to keep pace with inflation. Between 1992 and 2002, the state motor fuel tax rates, despite having increased by slightly under 2 cents per

gallon (equivalent to an increase of 9%), actually fell in real value (adjusted for inflation) by 3 cents per gallon, or a decrease of 14% (Puentes & Price 2003). If these numbers were instead adjusted on the basis of a transportation cost index, the decrease in the real value would have been much greater.

Figure 2.1.1. Historical Trend in Inflation-Adjusted State Gasoline Tax Rates



Source: American Petroleum Institute, Historical Trends in Motor Gasoline Taxes 1918-2002.

While inflationary pressures continued to erode the purchasing power of the motor fuel tax, another problem has emerged that has had an equally negative impact on the adequacy of motor fuel tax dollars. Automobile manufacturers have produced, and motorists have purchased more fuel efficient vehicles, resulting in gasoline purchases per mile driven that have declined dramatically, and correspondingly, declining fuel tax revenues. Collectively, these two trends have caused concern over the continued viability and sustainability of motor fuel taxes as an important source of funding for transportation. At the current rate, the gas tax fails to keep pace with inflation and the cost of needed transportation investments.

The emergence and increasing popularity of alternative fuels have also necessitated a rethinking of the motor fuel tax in its current form. As growing numbers of vehicles are powered by engines that consume fuels other than gasoline or diesel, the long-term efficacy of the motor fuel tax in producing sufficient revenue comes into question.

Thanks to the use of alternative fuels and the increase in fuel economy standards, vehicle fuel efficiency has also risen over the past four decades. In 1960, the national vehicle fuel efficiency

was 14.3 miles per gallon, compared to 22.6 miles per gallon in 1995 (Gross & Feldman 1997). Even with the growing popularity of larger and heavier vehicles, such as pick-up trucks and sport utility vehicles, the overall fuel economy has continued to rise as older gas guzzlers are retired from service. As such, drivers pay much less in motor fuel taxes per mile driven.

The changing fuel efficiency also has consequences for the equity of the motor fuel tax. Historically, the gas tax has been considered equitable, heavier vehicles that imposed a greater cost on the road system tended to get lower gas mileage and thus paid more in gas taxes. The wider variation in fuel efficiency, the potential for use of alternative fuels, and the inability to make user charges commensurate with the costs imposed on the road system have invalidated this equity assumption (Forkenbrock & Schweitzer 1997; Rufolo & Bertini 2003), since fuel consumption – and its corresponding fuel tax revenues – does not necessarily increase with vehicle size and weight in proportion to the damage/wear to pavement and bridges.

In most states, the motor fuel taxes are levied as a fixed amount per gallon. As a result, the real value of the motor fuel tax declines over time. It is often politically difficult to increase the gas tax, this also contributes to less revenue per vehicle mile, and a declining portion of roadway costs paid by the motor fuel taxes (Puentes & Prince 2003, Litman 2004).

Using a variable-rate or indexed tax instead of a fixed tax could potentially help overcome the problem of inflation and compensate for increased fuel efficiency and the use of alternate fuels. As Ang-Olson et al. (2000) argue, “an indexed gas tax structure can maintain long-term real revenue without the political battles and uncertainty that accompany tax legislation” (p. 66).

Variable Rate Motor Fuel Tax

One way in which the purchasing power of the motor fuel tax can be maintained is by replacing the current fixed rate structure with a variable or indexed rate such that it adjusts automatically with changing rates of inflation or changing fuel economy. Since 1970, 17 states, including the District of Columbia, have employed, in one form or another, a variable rate fuel tax structure. Currently, seven states have variable rate motor fuel taxes. Maine recently joined this group by adopting a gas tax indexed to the CPI measure of inflation. Several states such as Rhode Island and Massachusetts have statutes that allow for variable rates, but that have provisions disallowing rate changes without legislative approval. Other states, such as Indiana, Maryland and Washington, on the other hand, have previously experimented with variable rate structures but have since repealed such statutes. There are also incidences of states where adoption of a variable rate structure was never followed by adjustments to the motor fuel tax rates. Delaware, for example, adopted a variable tax based on the wholesale price of gasoline, but rate constraints (rate floors and ceilings) inhibited any rate change from occurring. In Arizona, the variable rate was adopted, and subsequently repealed before even being implemented. Table 2.1.1 presents a brief summary of the states that have previously used or are currently using variable rate gas tax structures. Data for Table 2.1.1 were compiled from a variety of sources including Ang-Olson et al. (2000), Bowman & Mikesell (1983), Puentes & Prince (2003), the American Road and Transportation Builders Association (ARTBA), the American Petroleum Institute, and the Federal Highway Administration Monthly Motor Fuel Report.

As the data on Table 2.1.1 show, states that have adopted variable rate motor fuel tax structures have implemented them in a variety of forms. These various forms can essentially be collapsed into four categories, which will be discussed in the next sub-section.

- (1) Variable tax rates that are adjusted based on changes in the gas price.
- (2) Variable tax rates that are tied to a cost index or inflationary measures such as the consumer price index or the FHWA's maintenance and construction cost index.
- (3) Variable tax rates that are adjusted based on sales of motor fuel.
- (4) Variable tax rates that are specified or adjusted to meet state transportation revenue needs.

In addition to these categories of variable or indexed gas tax rates, states have also implemented combinations of the fixed tax with the variable tax, in addition to constraining the adjustments of the variable tax by instituting rate floors and ceilings. For some states the variable rate adjustment occurs annually, and for others the adjustment occur more frequently, either semi-annually or quarterly.

Variable Rate Motor Fuel Tax Based on Gas Prices

Variable rate motor fuel taxes based on gas prices were the first type of variable gas tax to be adopted. In essence, the gas tax rate is indexed to some measure of gasoline prices such as the wholesale or retail price. While tied to gasoline prices, this category of motor fuel taxes are generally not considered ad valorem taxes because they are not levied directly as a percentage of the sales price (Ang-Olson et al. 2003). Instead, the tax is a per gallon rate that is adjusted based on data for the previous period's motor fuel prices. This type of variable motor fuel tax was the preferred indexing option in the late 1970s and early 1980s, primarily because of a significant decline in gasoline consumption caused in part by a sharp rise in gasoline prices. Most states suffered notable declines in their motor fuel tax receipts, prompting some states to turn to gas tax rates indexed to gas prices instead. At the time, linking the gas tax to sales price seemed to be a convenient and reliable way to contain the erosion of motor fuel tax revenues caused by reduced consumption and inflation.

This form of variable rate motor fuel fell from grace in the mid 1980s as consumption began to increase while the average retail gasoline price decreased. Some states eliminated their variable rate structures and reinstating the fixed per gallon tax levy. Other states adopted rate floors or increased their percentage rates. Many of the states that currently have motor fuel taxes indexed to gas prices continue to have rate floors, in addition to having imposed ceilings or caps for the tax rates or the adjustments to the tax rates.

Variable Rate Motor Fuel Tax Based on Cost Index or Inflationary Measures

In the early 1980s, several states also experimented with indexing their motor fuel taxes to direct measures of inflation, such as the consumer price index (CPI) or the Federal Highway Administration's highway maintenance and construction cost index. Ohio, Michigan, and Wisconsin were three states that utilized the FHWA's cost index. Florida, the District of

Columbia, Maine and Wisconsin are currently using or previously used the CPI. The purpose of this linkage between tax rates and inflationary measures was to ensure that the purchasing power of the states' motor fuel tax revenue is maintained.

Variable Rate Motor Fuel Tax Based on Motor Fuel Sales

Another variation of an indexed gas tax adopted by the states is the variable tax that is adjusted based on motor fuel sales. Often times, the indexing formula for the gas tax is inversely proportional to the change in fuel taxes of the previous year. Ohio's variable rate structure, for example, was directly proportional to the percentage change in the FHWA's cost index and inversely proportional to the percentage change in the state's fuel sales relative to the previous year. The benefit of this indexing format is that it allows for maintaining stable motor fuel tax revenues in the face of fluctuating consumption. In addition, it also partially compensates for increasing vehicle fuel efficiency, as the tax rate increases with increasing fuel efficiency (reflected by decreased fuel consumption).

Variable Rate Motor Fuel Tax Based on Revenue Needs

Variable rate motor fuel taxes can also be adjusted to meet specific revenue needs. Of the states that currently have variable rate gas taxes, Nebraska is the only state that falls into this category. Nebraska's rate structure is comprised of a fixed component and two variable components. The first variable component is determined annually such that the gas tax rate is sufficient to meet the payment requirements for its highway debt service. In addition, this variable gas tax rate is also automatically adjusted based on the statewide average cost of fuel. The second variable component is determined annually at a rate sufficient to provide the revenue specified by the legislature for the Highway Cash Fund.

The Future of Variable Rate Motor Fuel Tax Structure

From 1990 to 2000 no state adopted a variable rate motor fuel tax. However, the deepening of the states' fiscal crisis since the late 1990s has created renewed interest in indexed fuel taxes, as statutory rate increases have become increasingly difficult to pass in state legislatures. In 1995, Utah was considering linking its gas tax to inflation as a way to ensure adequate funding for road improvements. However, due to opposition from the Utah Taxpayers Association and resistance by Utah Democrats to gas tax increases, the indexing option was not pursued. The Michigan legislature considered a proposal in 1995 to index the tax to inflation, but the proposal failed. In 1998, California's Legislative Analyst's Office suggested indexing the state gas tax to inflation as an alternative to periodic statutory increases. A bill was introduced into the California Assembly proposing the indexing option. The California proposal shared the same fate as the Michigan proposal. Washington was also considering a variable rate gas tax in which the gas tax would be indexed to the implicit price deflator index, thus allowing it to maintain its purchasing power. In 1996, the governor and some legislators proposed a variable gas tax supplement that would be adjusted annually based on population change and inflation.

Table 2.1.1 Summary of States with Previous or Current Variable-Rate Gas Tax Structures

State	Description	Years	Adjustment Frequency	Fixed & Variable Tax	Based on fuel prices	Based on fuel sales	Indexed to Inflation	Tax Rate Floor	Tax Rate Ceiling	Rate Change Ceiling
District of Columbia	Gas tax indexed to the CPI.	1982 - 1985	Annually				X		X	
Florida	Fixed tax plus variable tax indexed to the CPI.	1990 - present	Annually	X			X			
Indiana	Gas tax given as 10% of the average retail price.	1981-1986	Semi-annually		X					
Iowa	Gas tax based on sales of ethanol-blended gasoline.	2002-present	Annually			X				
Kentucky	2 component variable gas tax: (1) Tax of 9% of the average wholesale price of gas; (2) Supplemental tax reflecting decreases in the average wholesale price; has effectively become flat per gallon rate.	1986 - present	Quarterly		X			X	X	
	Gas tax rate given as 10% of the average wholesale fuel price.	1980 – 1985	Quarterly		X			X		X
Maine	Gas tax indexed to the CPI.	2003 - present	Annually				X			
Maryland	Gas tax given as 10% of the average wholesale fuel price.	1985-1987			X					
Massachusetts	Gas tax given as 10% of the average wholesale price of gasoline.	1980 – 2000	Quarterly		X			X		
Michigan	Gas tax indexed to the FHWA's highway maintenance & construction cost index and sales of taxable fuel.	1982-1984	Annually			X	X	X	X	X
Nebraska	Fixed tax plus a 2 component variable rate: (1) tax rate sufficient to provide revenue to meet the debt service requirements (also adjusted based on average fuel cost); (2) tax rate sufficient to meet the appropriations made from the Highway Cash Fund by the Legislature.	1980 - present	Annually and Quarterly	X	X					

Table 2.1.1 cont.

State	Description	Years	Adjustment Frequency	Fixed & Variable Tax	Based on fuel prices	Based on fuel sales	Indexed to Inflation	Tax Rate Floor	Tax Rate Ceiling	Rate Change Ceiling
New Mexico	Gas tax schedule based on average wholesale price of taxable fuel.	1979-1985	Annually		X			X	X	X
North Carolina	Fixed tax plus variable tax of 7% of the average wholesale price of gasoline.	1986 - present	Semi-annually	X	X			X		
Ohio	Fixed tax plus variable tax indexed to the FHWA's highway maintenance & construction cost index and taxable fuel sales.	1981-1993	Annually	X		X	X	X	X	
Rhode Island	Gas tax given as 11% of the average wholesale fuel price	1981-1996	Quarterly		X			X		
Virginia	Fixed tax plus variable tax of 3% of the gross receipts of oil companies from the sale of gasoline.	1982 - 1986		X		X				
Washington	Gas tax given as 10% of the average retail price of motor vehicle fuel.	1977 - 1985	Semi-annually		X			X	X	X
Wisconsin	Fixed tax plus variable tax indexed to the CPI for urban consumers.	1998 - present	Annually	X			X			
	Fixed tax plus variable tax indexed to the FHWA's highway maintenance & construction cost index and state fuel sales.	1984 - 1998	Annually	X		X	X			

* States that currently have some type of variable rate motor fuel tax are shaded in grey.

Source: Data compiled by the research team from Ang-Olson et al. (2000), Bowman & Mikesell (1983), Puentes & Prince (2003), American Road & Transportation Builders Association, American Petroleum Institute, and the Federal Highway Administration Monthly Motor Fuel Report.

One state has been successful in its efforts to move towards variable rate motor fuel taxes. In 2002, the Maine legislature indexed its motor fuel tax to the CPI, with the new variable rate going into effect in 2003.

Kentucky Motor Fuel Tax

As the previous section indicated, Kentucky currently has a variable rate motor fuel tax structure. However, this variable rate adjusts only for the wholesale price of gasoline, and does not compensate for changes in inflation levels and increasing fuel efficiency. As such, while the state's gas tax revenues are responsive to the changing price levels of gasoline, it has not allowed the state to maintain the real value of its motor fuel tax. To make things worse, the supplemental gas tax rate – originally designed to be a variable tax rate – has effectively been maintained at 5 cents per gallon, essentially reverting to a flat rate.

Before 1980, the motor fuel tax rate in the Commonwealth of Kentucky was a fixed 9 cents per gallon. In 1980, this rate was revised to instead become a rate of 9 percent of the average wholesale price per gallon of gasoline. The original fixed rate of 9 cents per gallon means that the gas tax did not vary regardless of the wholesale price level. However, with the new post-1980 tax structure, the amount of tax imposed per gallon varied as the wholesale price varied. In 1986, the tax rate was again changed. The new motor fuel tax reflected a two-component variable gas tax rate with a minimum combined rate of 15 cents per gallon. The first component was a tax of 9% of the average wholesale price of gas, with a minimum wholesale price of \$1.11 or a maximum tax of 10 cents per gallon. This was supplemented by a second motor fuel tax component which was intended to adjust to reflect decreases in the average wholesale price, with two conditions, namely that the supplemental tax be capped at 5 cents per gallon and that the tax for any quarter not be less than that of the previous quarter. In recent years, this supplemental tax has essentially become a flat tax of 5 cents per gallon.

In 1992, Kentucky's gas tax was 15.4 cents per gallon and in 2002 it was 16.4 cents per gallon. When inflation is not taken into account, this change between 1992 and 2002 represents an increase of 6.5%, but when the tax is adjusted for inflation, this change actually represents a decrease in the real value of the gas tax by 16.7% (Puentes & Prince 2003). In Kentucky in 2004, the gas tax was 17.4 cents per gallon and beginning July 2005 the tax will be 18.5 cents per gallon. Even with these increases, the gas tax has not yet fully accounted for inflationary pressures.

In addition, the long-term price elasticity of demand for gasoline in Kentucky has been about -0.68 (between 1960 and 1976) and -1.24 (between 1960 and 1980). The income elasticity of demand for gasoline was 1.20 (between 1960 and 1976) and 1.67 (between 1960 and 1980) (Song 1982). Both income and price elasticities have increased in absolute value, indicating that they have become more elastic in recent times. In fact, from the price perspective, the price elasticity has gone from being inelastic to being elastic, and this trend is expected to continue as consumers turn toward increasingly more fuel efficient vehicles.

Another issue of concern for the motor fuel tax in Kentucky is that motor fuel is also exempt from sales tax. Some transportation finance researchers have argued that this in essence represents an underpricing of motor fuel relative to other consumer expenditures.

It makes sense, given Kentucky’s transportation finance strategies, that it too consider indexing the gas tax. While the current gas tax allows some linkage between fuel tax revenues and increases in fuel prices, it is not immune to the diminishing of purchasing power due to inflation. A decrease in real value of over 15% should be cause for concern, and prompt an investigation into the options of indexing the gas tax to inflation or some other cost index, in addition to taking into account increases in vehicle fuel efficiency.

Indexing Options for Kentucky

Based on the research undertaken, there are several options available for Kentucky to change its current gas tax indexing formula to a new indexing formula: (1) based on changes in the CPI, or (2) based on changes in the CPI and fuel sales. The first options will ensure that motor fuel tax rates at least keep pace with inflation while the second option will provide additional safeguarding to ensure stability of motor fuel tax revenues in the face of declining fuel consumption. The first option will involve determining the current year tax rate by directly adjusting the previous year rate by the change in the CPI. The second option calls for an indexing formula that is directly proportional to the measure of inflation and indirectly proportional to motor fuel consumption in the state.

For illustration, assume that Kentucky’s gas tax indexing formula changed in 1998. Table 2.1.2 summarizes the different motor fuel tax rates under the different options. The numbers shown in this table are computed based on this assumption. Information about the CPI were obtained from data made available by the U.S. Bureau of Labor Statistics and data for motor fuel sales were obtained from the FHWA’s monthly motor fuel tax report. An example of how the new tax rates were computed is shown in Table 2.1.3. Data for 1999 are used in this example.

Table 2.1.2 Adjusted Gas Tax Rates for 1998 – 2003 under the New Indexing Options

Year	Actual Gas Tax Rate (cents pre gallon)	% Change in CPI	% Change in Motor Fuel Sales	Tax Rate Adjusted for CPI (cents per gallon)	Tax Rate Adjusted for CPI & Fuel Sales (cents per gallon)
1998 ^(a)	16.4			16.4	16.4
1999	16.4	2.4%	2.2%	16.8	16.4
2000	16.4	3.0%	-4.5%	17.3	18.1
2001	16.4	2.9%	5.0%	17.8	17.0
2002	16.4	1.7%	7.3%	18.1	16.9
2003	16.4	2.2%	-1.0%	18.5	18.7

^(a) 1998 is used as the base year for the initial calculations of changes in the CPI and in motor fuel sales.

Source: CPI data from the Bureau of Labor Statistics and calculations by the research team.

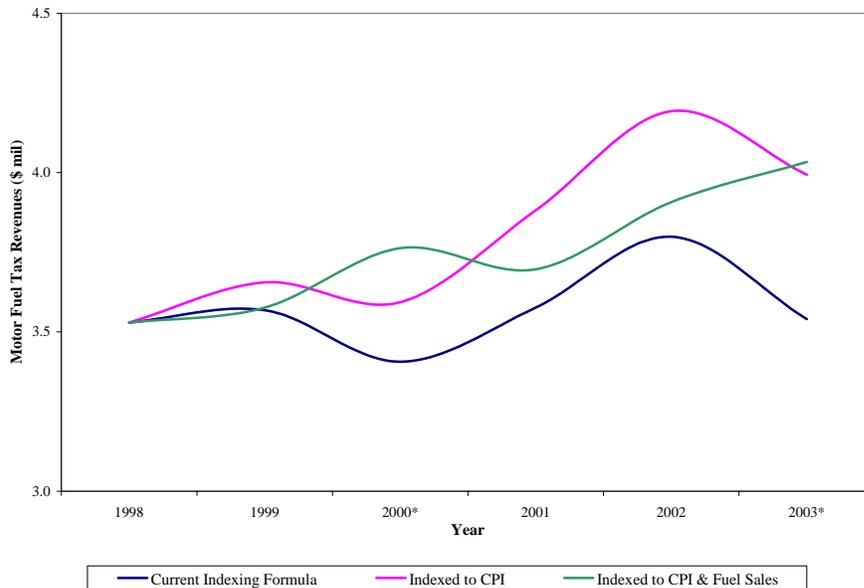
Table 2.1.3 Example Calculations Using Proposed Indexing Formula

Indexing Option	
(1) Based on CPI	$\begin{aligned} \text{Current Year Tax Rate} &= \text{Previous Year Tax Rate} \times (1 + \% \Delta \text{ in CPI}) \\ &= 16.4 \times (1 + 0.024) \\ &= 16.8 \end{aligned}$
(2) Based on CPI and Fuel Sales	$\begin{aligned} \text{Current Year Tax Rate} &= \frac{\text{Previous Year Tax Rate} \times (1 + \% \Delta \text{ in CPI})}{(1 + \% \Delta \text{ in Fuel Sales})} \\ &= \frac{16.4 \times (1 + 0.024)}{(1 + 0.022)} \\ &= 16.4 \end{aligned}$

Source: Calculations by the research team.

The first option, based on indexing to a measure of inflation such as the CPI, has the advantage of being an automatic means of maintaining the purchasing power of motor fuel tax revenues. The second option, with a formula that is inversely proportional to fuel sales, has an added advantage in that serves as a mechanism by which the state can attempt to compensate for the possible decline in gas tax revenues as fuel consumption decrease due to increasing fuel efficiency. For periods of increasing fuel consumption, however, the gas tax rate under the second option would be lower than if it were adjusted solely based on the CPI. If the expectation is that there will be downward pressures on fuel consumption, the second option would be preferable, since it compensates for lower fuel consumption with higher tax rates. The next chart, Figure 2.1.2, shows the projected motor fuel tax revenues for both options from 1998 – 2003, given the historical CPI and fuel consumption, assuming that the new indexing formula were effective 1998. As the chart shows, gas tax revenues were higher using the CPI-based formula during years of fuel tax increases, and vice versa. The last year for which data on fuel consumption was available was 2003, and so this analysis was unable to determine whether the declining fuel consumption was a continuing trend.

Figure 2.1.2 Comparison of Motor Fuel Tax Revenues under Different Indexing Options



* Years of fuel consumption declines relative to the previous year.

Source: Motor fuel tax revenues from FHWA's Monthly Motor Fuel Report and calculations by the research team.

The following discussion provides an analysis of the advantages and disadvantages of this gas tax indexing options along with comments on possible implementation.

From an equity perspective, the new indexed gas tax does not differ greatly from the state's current gas tax structure. It is a transportation financing mechanism that is equitable across geographical areas, across different vehicle classes, and across different income groups. The major advantage of both indexed motor fuel tax options is its adequacy. Because the gas tax rates would be linked directly to inflation, the resulting gas tax revenues will be responsive to inflationary pressures. However, it is difficult to predict how it will respond to growth in income. It could be expected that as income levels increase, drivers and road users may shift towards newer vehicles with greater fuel efficiency. As such, fuel consumption would decrease, and the gas tax, being inversely proportional to fuel consumption, would rise. However, income growth could also result in greater travel and road usage, implying an increase in fuel consumption. This would instead prompt a decline in the gas tax rate. Using the second option, however, the overall gas tax revenue would not be expected to fall because the lower tax rate will be multiplied by an enhanced revenue base as fuel consumption is increased. As such, the new indexing formula would ensure stability of the motor fuel tax revenue in the face of declining fuel consumption, and while it may decrease the proportionality of the revenue increase with respect to increases in the fuel consumption tax base, the overall effect is a gas tax structure that at a minimum, attempts to ensure motor fuel tax revenues that steadily stay on course.

While the new indexing formula for the gas tax does provide several advantages over the current formula based on wholesale prices, it shares several disadvantages as the current formula. One of those disadvantages is with respect to being a user fee. In many circles, the gas tax is often considered a classic user fee. The user is charged a fee of say, 20 cents per gallon, for each gallon of gasoline purchased for road travel. This in turn entitles the user to travel on and utilize the roads. However, other schools of thought argue that the motor fuel tax does not provide consistency between revenues and benefits that mileage-based taxes would provide. In addition, the efficiency of the motor fuel tax comes into question as it does not lead to more efficient use of transportation facilities or infrastructure and ignores the differential cost of providing road capacity at different times of day or in different locations (Rufolo & Bertini 2003).

From an administration perspective, changing the variable rate formula does not have major implications. The collection, compliance, enforcement and evasion aspects of the administration of the motor fuel tax would be unchanged. The only administrative changes would involve the type of data collected and used to adjust the motor fuel tax rate. Instead of collecting data on wholesale gas prices, the responsible parties would need to collect data on fuel sales (as a measure of fuel consumptions) and keep track of the CPI.

Another interesting aspect of the indexing gas tax to CPI and fuel consumption option is that the implementation costs are minimal. Adoption and implementation of this new indexing formula simply requires that minor adjustments be made to the data collection process and the tax rate adjustment process. We anticipate that these changes will not require significant investment. Proponents of variable rate motor fuel tax structures have pointed out that state

legislatures have raised their concerns over both their loss of control of the motor fuel tax rate. However, this should not be seen as a major barrier to adoption because Kentucky has long had an indexed gas tax, and the legislature is unlikely to perceive this change in the indexing formula as resulting in loss of legislative control over gas tax rates.

2.2 Eliminate Tax Expenditures to Increase Road Fund Revenues

Introduction to Tax Expenditures

This section introduces and reviews the concept of tax expenditures and presents a brief history of the tax expenditure concept. Tax expenditures are widely used across nations and at different levels of government in the United States. The concept of tax expenditures has been controversial since its inception. Despite the debate over tax expenditures, policy makers continue to rely on tax expenditure reports for information on policy and programs carried out through the tax system. Surrey and McDaniel (1985) have noted a rapid expansion in the uses of tax expenditures. Tax expenditure reports constitute a relatively new addition to the budget process of many states. Mikesell (2002) reported that, as of 2001, 33 states produced some type of tax expenditure report to highlight the impact of special tax treatments and exemptions.

Bruce (1998) defines a tax expenditure as “the amount of revenue lost from a tax preference where the same objective could have been obtained by a budgetary expenditure” (p. A-27). The introduction of this concept is attributed to Stanley Surrey (1973), who detailed the development of the tax expenditure concept in his book *Pathways to Tax Reform*. The introduction of the tax expenditure concept, in the Treasury Department, came in response to the increasing number of tax incentive programs that were being carried out through the individual and corporate income tax. The Treasury, in the 1960’s was increasingly opposed to these “expenditure programs” that were embedded in the tax code (Surrey and McDaniel 1985)

Surrey’s (1973) personal view was that tax reform would best be accomplished by scrutiny and, in many cases, elimination of the tax expenditures. As the Assistant Secretary of Tax Policy in the Treasury department he pushed for and helped create the first tax expenditure reports. Although the Treasury began developing and reporting on tax expenditures in the late 60’s, the formal inclusion of tax expenditure analysis in the federal budget did not happen until 1975.

The Congressional Budget and Impoundment Act of 1974 (Public Law 93-344) mandated the inclusion of tax expenditure analyses in the federal budget. In this law tax expenditures are defined as “revenue losses attributable to provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, preferential rate of tax, or a deferral of liability.”

Tax expenditure analyses have been part of each U.S. budget from 1975 to the present. In *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2005*, the OMB presents estimates of tax expenditures for 137 different items. The largest of these items is the “Exclusion of employer contributions for medical insurance premiums and medical care” at an estimated tax expenditure of \$112,990 million (p.294). At the other end of the spectrum are

numerous items at \$10 million or less. Looking at the list of estimated tax expenditures it becomes apparent that most individuals and corporations are eligible for at least some type of tax expenditure.

Surrey (1973), describes the federal income tax system as being comprised of two components: provisions needed to implement an income tax and provisions used by government to carry out special programs. Surrey wanted to scrutinize the special programs carried out through the tax system. The difficulty is in determining what constitutes a special program and what should be considered part of the normal tax structure. The definition provided by the Congressional Budget Act of 1974 leaves this question unanswered. The heart of the issue depends on the tax base(s) that is chosen for comparison, choice of accounting period, specified tax rate structure, and choice of taxable unit. These issues are left for discussion in other papers dealing with tax expenditures more generally.

On the federal level there are very few tax expenditures that relate to transportation or road financing. This results from the heavy reliance, at the federal level, on income taxation. The tax expenditures at the federal level are related to exemptions or deductions related to income. Looking at state level tax expenditure reports there are many more items related to transportation/road financing. At the state level, in addition to or in place of the income tax, there is usually a state-wide sales tax, heavier reliance on motor fuel taxes, and motor vehicle usage taxes.

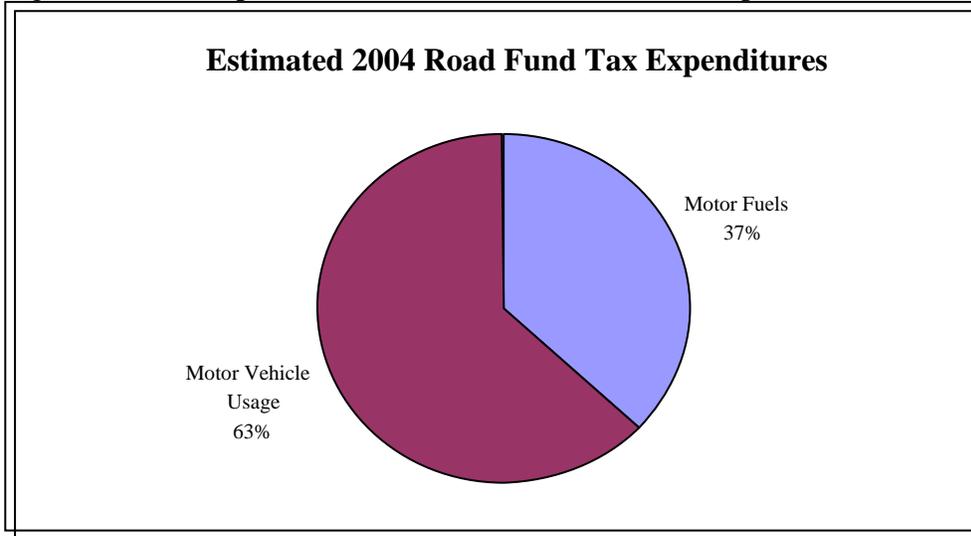
The pervasiveness and impacts of tax expenditures could lead some policy makers to conclude, like Surrey, that significant tax reform could be accomplished by eliminating some, or all of the tax expenditures. Some individuals imagine that the elimination of one large tax expenditure would lead to a revenue increase equal to the tax expenditure estimate. This thinking is incorrect for a number of reasons. First, the tax expenditure estimates are static and do not account for behavioral responses to tax changes. In other words, if this tax expenditure is eliminated people may change their behavior with respect to the taxed item. This change in behavior (likely a decrease in consumption of the good) will decrease the amount of revenue that would be collected if the tax expenditure were repealed. Second, many tax expenditures are interdependent even if there were no change in behavior. A repeal of the tax expenditure on motor fuel taxes could reduce the number of people who purchase motor vehicles thus reducing the motor vehicle usage tax collection.

Kentucky's Estimates of Road Fund-related Tax Expenditures

Kentucky's bi-annual tax expenditure reports include a number of items that are related to transportation/roads. For the purposes of the Kentucky's budget office, there are two main categories contributing to Road Fund tax expenditures—Motor Vehicle Usage and Motor Fuel taxes. Figure 2.2.1 shows the how much of the Road Fund tax expenditure is accounted for by the Motor Vehicle Usage and Motor Fuel exemptions. The Motor Fuel tax expenditure estimate is composed of exemptions from the gasoline tax, liquefied petroleum tax, and special fuels taxes. Each of these sub-categories is composed of smaller classifications of exemptions (e.g. agricultural use exemption, U.S. government exemption, and State and local government

use exemption). The same is true of the estimated tax expenditures for motor vehicle usage tax; there are a number of categories that compose the total tax expenditure for motor vehicle usage.

Figure 2.2.1 Composition of the 2004 Road Fund Tax Expenditures



Source: Commonwealth of Kentucky Tax Expenditure Analysis, Fiscal Years 2004-2006.

In addition to the noted exemptions in motor fuel taxes and motor vehicles usage taxes there are other exemptions which, if eliminated, could logically provide revenue related to road usage. Two prominent examples are the sales tax exemption for repair parts for large trucks and the exemption for Automotive and Miscellaneous Repair Services. Both of these items are related to road usage and, if revenue were to be collected, could be considered candidates for contribution to the Road Fund.

Individual Components of Road Related Tax Expenditures

The following section will look at the tax expenditures related to the Road Fund in Kentucky. Each component will be discussed in terms of the tax base and the estimated size of the tax expenditure.

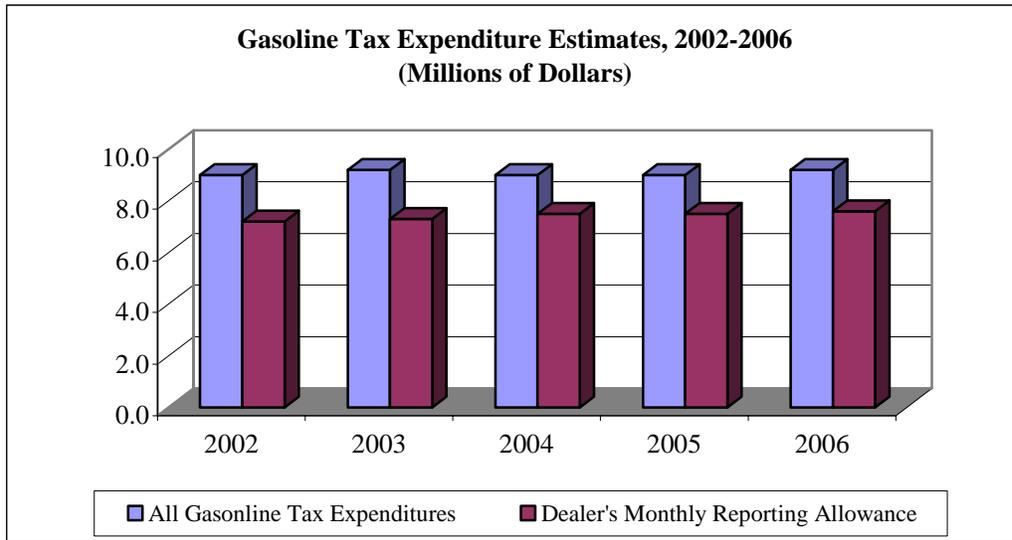
Motor Fuel Taxes

As noted above, the motor fuel tax expenditures are comprised of exemptions related to the gasoline tax and exemptions related to special fuels taxes. These taxes are imposed for the privilege of using the state highway system. The revenue generated from these taxes flows to the Road Fund, therefore, revenue lost from exemptions is revenue lost to the Road Fund.

The gasoline tax is levied on the average wholesale price of gasoline and is paid by gasoline dealers. The gasoline tax expenditure estimate is comprised of six sub-categories the largest of which is related to gasoline dealer's monthly reporting allowance. "A gasoline dealer is

allowed a 2.25 percent credit of the net tax due when timely filing and paying a monthly tax return” (Kentucky’s Tax Expenditure Analysis FY 2002-2004 pg 32). The remaining categories are all substantially smaller than this, as shown in Figure 2.2.2. The estimated tax expenditure for all gasoline tax exemptions in 2004 is a little more than \$9 million. The gasoline dealer’s monthly reporting allowance is \$7.5 million in 2004. This is over 83% of the total gasoline tax expenditure.

Figure 2.2.2 Estimated Gasoline Tax Expenditures

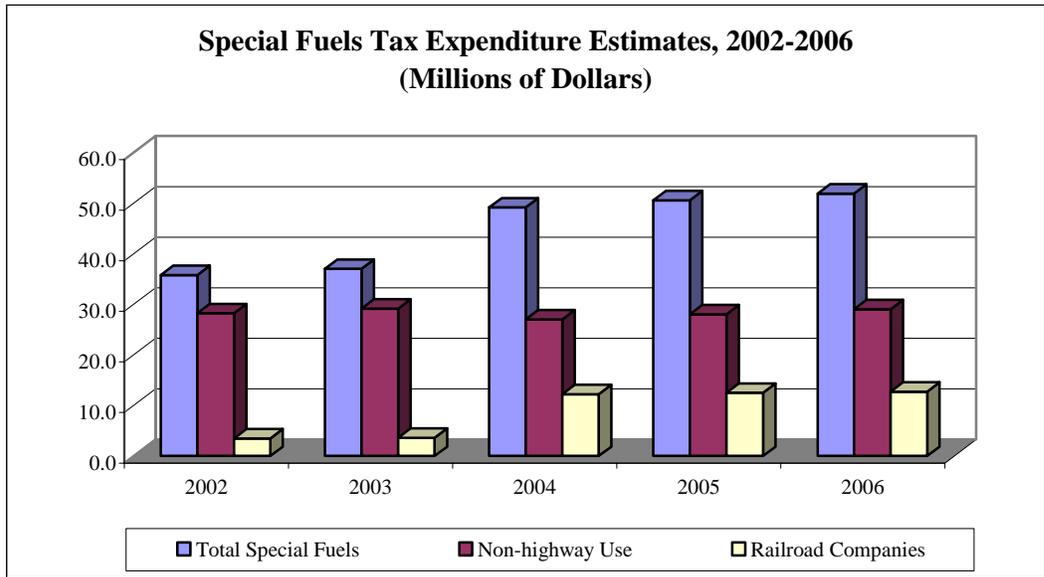


Source: Commonwealth of Kentucky Tax Expenditure Analysis, Fiscal Years 2002-2004 and 2004-2006.

The other large portion of the tax expenditures related to Motor Fuel taxation is from taxes on special fuels. Special fuels include combustible gases and liquids, which can be used in motor vehicles, except gasoline. The tax on special fuel is the same as that for the gasoline tax. The tax is based on the average wholesale price per gallon of special fuel. The two largest categories within this broader heading are the non-highway use exemption and exemption for railroad companies. These two exemptions make up around 80% of the total exemptions in each year. As stated in Kentucky’s 2002-2004 Tax Expenditure Analysis, “Special fuels used exclusively for non-highway use by qualified purchasers are exempt sales” (pg. 114). Additionally, railroad companies primarily transporting property or persons are exempt from taxation.

In 2004 the total estimated tax expenditure for special fuels taxes was \$49.14 million. Of this amount \$27 million is allocated to the non-highway use exemption and \$12.2 million to the exemption for railroad companies. These special fuels tax expenditures are summarized in Figure 2.2.3.

Figure 2.2.3 Estimated Special Fuels Tax Expenditures



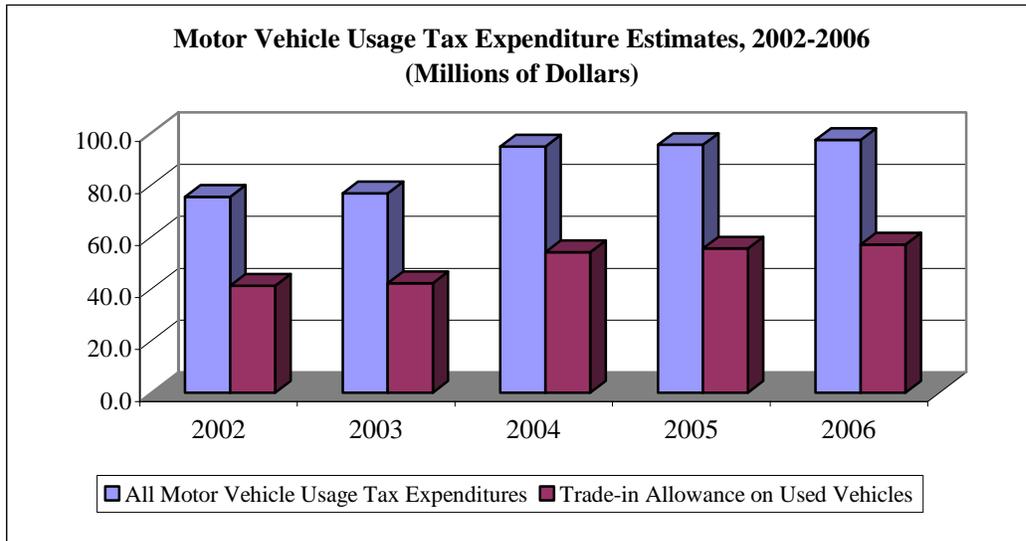
Source: Commonwealth of Kentucky Tax Expenditure Analysis, Fiscal Years 2002-2004 and 2004-2006.

Motor Vehicle Usage

The motor vehicle usage tax is another tax on the privilege of using a motor vehicle on the public highways. The tax is collected on the value of both new and used vehicles based on the total consideration given. Tax expenditure estimates related to motor vehicle usage taxation are larger than those related to motor fuel taxation. In 2004 the estimated tax expenditure was \$94.66 million. The largest component of this tax expenditure is an allowance for the trade in of used vehicles, estimated at \$54.1 million. For used vehicles previously registered in Kentucky and subsequently sold in Kentucky, a trade-in allowance is allowed in an amount equal to the statutory retail price of the vehicle taken in trade. Figure 2.2.4 shows the estimated amounts from 2002 through 2006.

These are the estimates that the Kentucky’s official analysis includes as Road Fund tax expenditures. The total amount of tax expenditures related to the Road Fund, as noted in the Commonwealth’s analysis for 2004, is over \$150 million.

Figure 2.2.4 Estimated Motor Vehicle Usage Tax Expenditures



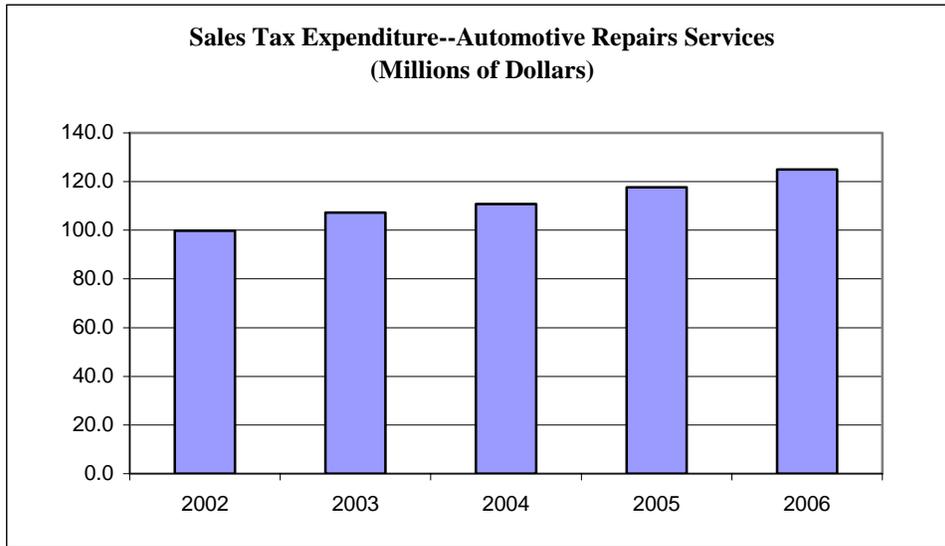
Source: Commonwealth of Kentucky Tax Expenditure Analysis, Fiscal Years 2002-2004 and 2004-2006.

Sales Tax Exemption, Exclusion of Services—Automotive and Miscellaneous repair services

Currently, many services are exempt from taxation in Kentucky. The exclusion of services from sales taxation is a large topic of discussion in tax reform generally. Were this exemption to be removed, the revenue from the taxed services would flow to the General Fund. As noted earlier, there are components of these tax exempt services that are directly related to vehicle usage. It seems reasonable that a usage tax could be applied to labor used in automotive repair, this would direct the revenue to the Road Fund. The imposition of a usage tax on this service—which is related to road usage—is in keeping with the broad principle of taxation that links the tax to the users. This issue is explored more in the section devoted to the imposition of a usage tax on automotive parts and labor.

A substantial amount of revenue could be raised by taxing the labor used in automotive repair. The estimated revenue foregone, because of the exemption of sales tax related to automotive and miscellaneous services, is larger than the estimated revenue foregone because of exemptions related to motor vehicle usage. The estimated tax expenditure in this area is \$110.8 million in 2004.

Figure 2.2.5 Estimated Tax Expenditures for Automotive Repair Services



Source: Commonwealth of Kentucky Tax Expenditure Analysis, Fiscal Years 2002-2004 and 2004-2006.

Advantages and Disadvantages of Eliminating Tax Expenditures

As properly noted in Kentucky's Tax Expenditure Analysis, tax expenditures negatively affect the budget process because they are not subject to a systematic review that the other spending categories are subject to with each biennial budget process. This feature makes tax expenditures desirable to interest groups seeking to take advantage of legislated changes and also makes it difficult for legislators to change. Overcoming the entrenched interest groups legislatively is the largest hurdle to eliminating tax expenditures.

Evaluating tax expenditures in terms of adequacy, equity, efficiency, simplicity of administration, and implementation is not difficult. If tax expenditures were eliminated revenue would be generated simply by collecting portions of the existing taxes that are currently exempt. This would increase revenue but have little impact in terms of the criteria mentioned above (i.e. equity, adequacy, efficiency, implementation) for the existing motor fuel and motor vehicle usage taxes. An evaluation of services subject to the sales tax would yield different insights in terms of the evaluation criteria. A few points will be mentioned regarding select criteria and tax expenditures. The most important point to keep in mind is that the revenue generated by eliminating this exemption would flow to the General Fund and not the Road Fund. It would take a statutory change to impose a tax on automotive repair labor where the revenue would flow to the Road Fund. Other points are discussed below.

In terms of adequacy, eliminating tax expenditures would increase the amount of revenue collected from both motor fuel taxes and motor vehicle usage taxes. As noted in a previous section motor fuel taxes, as currently designed, are not responsive to inflation. The taxation of services related to automobile repair would be responsive to inflation.

These taxes have varying degrees of efficiency in terms of approximating the costs of highway travel and congestion. The sales tax on services, in particular, seems less related to the wear of the vehicle on the road. Periodic checks to change the oil, if done consistently at the recommended 3,000 miles, may approximate road usage. However, a larger component of this sales tax would be related to major and minor repairs not always on a schedule. Again, the larger issue is that sales tax revenue would flow to the General Fund, a different type of tax would be needed to dedicate this revenue for the Road Fund.

One major advantage of eliminating tax expenditures is its simplicity of administration and implementation. The increase in administrative costs to collect this revenue would be very small because the structure to collect these taxes is already in place. Additionally, eliminating tax expenditures makes the burden of the tax more apparent. This would also force legislators to make explicit any favoritism by legislating such with each new budget cycle. This would be made explicit in the budget by including direct subsidies to gasoline wholesalers or car dealers in the amount they gain with the current tax expenditure.

There may also be disadvantages to eliminating tax expenditures as defined in Kentucky's Tax Expenditure Analysis. Kentucky's tax expenditure analysis is based on deviations from the tax policy as defined in the Commonwealth's statutes rather than on a "normal" or ideal tax base. This means the existing report fails to distinguish if the listed tax expenditures are deviations from ideal tax policy or simply deviations from the existing tax policy. Mikesell (2002) states, "Proper definition of the normal tax structure should provide the first line of defense against arbitrary and capricious tax policy."

Regardless of how the tax expenditures are defined there will be resistance to their elimination by those currently benefiting from tax expenditures, such as dealers of motor fuel, used car dealers, and automotive repair shops. Another difficulty is that implementation requires changes to existing legislation that authorizes these tax expenditures.

Road Fund revenues could be significantly enhanced by eliminating tax expenditures related to roads and transportation. Many discussions on tax reform already include discussions on broadening the sales tax base to include services. A large potential revenue source for the Road Fund will remain untouched as long as services are exempt from the sales tax. If it were possible, adding the revenue from the sales taxation automotive repairs to the Road Fund would create a reliable, and substantial, source of tax revenue for years to come.

2.3 Impose Usage Tax on Motor Vehicle Repair Parts and Labor

The imposition of a usage tax on automotive part and accessory sales, accompanied by a similar tax on labor used in automotive repair is another potential revenue source for the Road Fund. These potentially taxable items are related to vehicle usage on state roadways, and could, therefore, be included as a component of a state's usage tax. However, there are important issues that would need to be addressed prior to any revenue realization for the Road Fund.

The key issue is that both of these items currently fall under the sales tax, although labor is currently exempt. This means, in terms of the Road Fund, that no revenue is coming, or could come to the Road Fund from these sources without a statutory change. For this reason, it is important to explore the imposition of a usage tax on these items that would allow the revenue generated from such a tax to flow to the Road Fund. Doing this would require legislative action.

Perhaps the first item to think about is whether or not taxes on automotive part sales and automotive repair labor should be directed to the Road Fund. Looking at this issue broadly, vehicle parts and labor used in repairs are necessary to keep cars on the road and may be loosely related to the level of road usage. With this in mind, a tax on these items may be considered the cost associated with the privilege of using the roads. As explored in this section, there are many interesting issues related to the taxation of these items.

Automotive Parts and Accessories Sales

Currently, there is a 6% sales tax that is applicable to vehicle parts and other automotive accessories. The sales tax is applied to the purchase of oil filters, radiators, and other vehicle components that are essential to the functioning of the vehicle. The sales tax is also applicable to automotive accessories such as sound systems, designer hubcaps, air fresheners, etc. This sales tax applies when the automotive part is purchased and installed by the vehicle owner or when an individual purchases the part in the course of repair work done in an automotive shop. The revenue generated from this tax currently goes to the General Fund.

It is, perhaps, insightful to compare the tax treatment of automotive parts and accessories—which are subject to the sales tax—and complete motor vehicles, new or used and composed of various automotive parts—which are subject to the usage tax. Kentucky's motor vehicle usage tax is defined in the statutes (KRS 138.460) as a tax paid on the *use* of every motor vehicle.³ The clear intent of the usage tax is to tax the vehicle owners and users who will benefit from the roads. Individuals who purchase cars are going to be the users of the roadways in the Commonwealth. What makes those who purchase entire cars and those who purchase car parts different? In this case, there is very little difference between the two groups. The new or used

³ KRS 138.460 states that the usage tax is “a tax levied upon its retail price at the rate of six percent (6%) shall be paid on the use in this state of every motor vehicle.” Court interpretation of this statute may be required to determine that automotive repair parts and labor contribute to the use of the motor vehicle.

motor vehicle is the sum of the various parts, yet which tax is imposed, and thus, where the revenue from the tax is directed, depends on whether it is purchased as a whole or in parts. For these transactions some tax revenue is collected regardless of whether one buys an entire car or its parts.

In both cases, whether one buys an entire car or simply automotive parts, the intent of the purchaser is likely to ensure that his vehicle can be used to transport himself on the roadways. Changing the tax on automotive and accessory parts from the sales tax to a usage tax would require legislation.

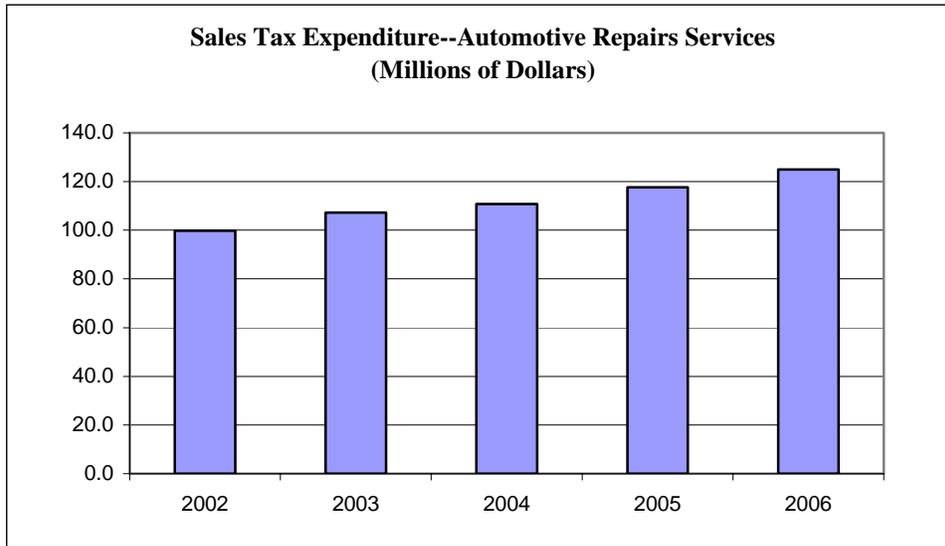
Labor—Automotive Repair

Labor inputs are part of the cost of vehicle repair and maintenance, as are the vehicle parts, therefore, it seems reasonable that a usage tax could be applied to labor used in automotive repair. Imposition of a usage tax would direct any revenue collected to the Road Fund. The imposition of a usage tax on this service—which is related to road usage—is in keeping with the broad principle of taxation that links the costs of goods to the users or those who benefit. In this case it ensures that people who drive motor vehicles are paying for the construction and maintenance of their roads.

Labor used in automotive repair is currently exempt from sales taxation. This exemption is discussed briefly in Section 2.2 on Tax Expenditures. If this type of labor was subject to taxation, would it make more sense that it be subject to a sales tax than a usage tax? A tax on labor used in automotive repair may not be directly related to the wear that a vehicle imposes on the roads. Taxing the labor involved in regular maintenance check-ups (e.g. oil changes), if done consistently at the manufacturer's recommendation, may generate tax revenue that is approximately related to road usage. However, a larger component of the tax revenue from automotive labor would be related to major and minor repairs not always on a schedule. The labor involved in changing the oil and doing routine maintenance is trivial compared to the labor involved in major overhauls. Though these types of repairs are not perfectly correlated with road use, it is likely that there is a high correlation with road use and the need for major repairs.

Figure 2.3.1 summarizes the estimate from Kentucky's *Tax Expenditure Analysis* (2001, 2003) of the revenue that is not collected because of the tax exemption of labor related to automotive repairs. These are substantial amounts of revenue that could be collected and directed to the Road Fund through a usage tax. Were this tax to be collected, it could be considered a charge for using the Commonwealth's roads.

Figure 2.3.1 Estimated Tax Expenditures for Automotive Repair Services



Source: Commonwealth of Kentucky Tax Expenditure Analysis, Fiscal Years 2002-2004 and 2004-2006.

Bundling Parts and Labor

Briefly touched on above is the different tax treatment of vehicle parts and entire vehicles. A related issue arises with respect to the taxation of labor related to automotive repairs. When an individual purchases a new or used car they must pay the usage tax. Reflected in the price of the vehicle is the cost of labor and parts used to produce the purchased product. In this manner both the labor and the parts are subject to the usage tax and any revenue streams go to the Road Fund. The current taxing situations for vehicle repair parts and labor are illustrated in Table 2.3.1. Several scenarios can be envisioned where the tax situation will change with the imposition of the usage tax on repair parts and labor. These different scenarios are illustrated in Table 2.3.2.

The base case is the purchase of a new vehicle that is “fully loaded,” it has all of the extras in terms of amenities (e.g. in car movie system) and quality parts (e.g. leather seats). As mentioned above all of the labor and parts are subject to the vehicle usage tax resulting in revenue gain to the Road Fund. Looking at this numerically, suppose this “fully loaded” car costs \$20,000 and the usage tax is 6%. This produces tax revenue for the Road Fund of \$1,200. The first variation to consider is an individual who purchases a new car with “no-frills” but adds all of the extras immediately after the initial purchase. This individual will pay the usage tax on the “no-frills” car, the sales tax on the new parts, and no tax on the labor to install the new parts because she is providing her own labor. In this example suppose that the “no-frills” car can be purchased for \$15,000, the parts to upgrade cost \$2,500, and the cost of additional labor is \$2,500. This will generate usage tax revenue of \$900, sales tax revenue of \$150, and no revenue in relation to the labor. Looking at this simplified example highlights the differences in the treatment of identical vehicles. The total tax revenue collected in the first scenario is \$1,200 all going in to the Road Fund. In the second example, the total tax revenue is \$1,050 with \$900 going to the Road Fund and \$150 going to the General Fund.

Table 2.3.1 Different Existing Scenarios for Collecting Taxes on Vehicle Repair Parts and Labor

	Vehicle Cost Pre- Repair	Cost of Parts	Price of Labor	Vehicle Sale Price	Amount Subject to Usage Tax	Amount Subject to Sales Tax	Amount Not Taxed	Road Fund Revenue Generated	General Fund Revenue Generated
Dealer repairs the car prior to the sale	\$500	\$500	\$1,000	\$2,000	\$2,000	\$0	\$0	\$120	\$0
Dealer repairs the car following the sale	\$500	\$500	\$1,000	\$500	\$500	\$500	\$1,000	\$30	\$30
Purchaser repairs the car	\$500	\$500	\$0	\$500	\$500	\$500	\$0	\$30	\$30

Source: Calculations by the research team.

Table 2.3.2 Different Scenarios Associated with the Imposition of Usage Tax on Vehicle Repair Parts and Labor.

	Vehicle Cost Pre- Repair	Cost of Parts	Price of Labor	Vehicle Sale Price	Amount Subject to Usage Tax	Amount Subject to Sales Tax	Amount Not Taxed	Road Fund Revenue Generated	General Fund Revenue Generated
Dealer repairs the car prior to the sale	\$500	\$500	\$1,000	\$2,000	\$2,000	\$0	\$0	\$120	\$0
Dealer repairs the car following the sale	\$500	\$500	\$1,000	\$500	\$2,000	\$0	\$0	\$120	\$0
Purchaser repairs the car	\$500	\$500	\$0	\$500	\$1,000	\$0	\$0	\$60	\$0

Different tax scenarios are more likely to occur in the used car arena. Suppose a used car, in need of major work is available for \$500 as is. The car dealer can repair the car before or after it sales or the purchaser can do the repair work herself. Imagine the car is worth \$2,000 after the repairs are made and repair parts cost \$500. Table 2.3.1 shows the different existing tax revenue scenarios related to each option. It is clear that how an individual deals with this scenario will affect the revenue that goes to the Road versus the General Fund, as well as the total amount of revenue that flows to the state. Table 2.3.2, on the other hand, summarizes how these different scenarios would be taxed if a usage tax was imposed on both vehicle repair parts and labor. The revenue generated for the Road Fund would be the same – \$120 – regardless of when the dealer repairs the vehicle.

Advantages and Disadvantages of Imposing a Usage Tax

Evaluating the usage tax in terms of adequacy, equity, efficiency, simplicity of administration, and implementation is almost identical to an evaluation of the sales tax. The one key difference is where the tax revenue would end up—in the Road Fund. Imposing a usage tax on automotive parts and accessories would not increase the state’s revenue but would shift revenue from the General Fund to the Road Fund. Imposing a usage tax on the labor used in automotive repairs would generate new tax revenue because this is currently exempt from the sales tax.

As noted in the introduction, there are good reasons to link tax revenue from these items to the Road Fund. Imposing a usage tax is in keeping with the principle of taxing those who are taking advantage of the roads. By the same token it directs the money to the maintenance and care of the roads that are being used, rather than directing money to the general fund.

The implementation of a usage tax would not require extraordinary efforts. The infrastructure and administrative personnel are in place to collect the usage tax from other types of transactions. There would be some start-up costs in identifying and classifying items as automotive parts and accessories versus general items subject to the sales tax. There would likely be little public resistance to the usage tax on automotive parts and accessories as these things are already subject to the sales tax. There may be more resistance to a tax on labor used in automotive repairs. It may be difficult to convince policy makers to shift fairly reliable revenue sources from the General Fund to the Road Fund.

These taxes have varying degrees of efficiency in terms of approximating the costs of highway travel and congestion. As alluded to earlier, there is likely a correlation between spending on repair parts and labor and road use. Even if the correlation is not perfect, it seems reasonable to tax items consistently. If a radiator, as a part of a new car, is subject to the usage tax, why treat a replacement radiator differently and subject it to the sales tax?

One advantage of imposing a usage tax on automotive parts and labor is that spending on these items is inversely related to the economic cycle. When the economy is booming people buy new cars and pay the attendant usage tax. When the economy slows down people spend more on automobile repairs. If the usage tax, on these items, were in place, the lost revenue from

declining purchases of new cars, in economic slow downs, could be replaced with revenue from the taxation of automotive parts and repairs.

The biggest disadvantage to this proposal is the need for a legislative change. In order to redirect funds from the General Fund to the Road Fund, the sales tax on automotive parts would need to be changed to a usage tax and a usage tax on automotive repair labor would need to be imposed.

Road Fund revenues could be significantly enhanced by imposing a usage tax on automotive parts and accessories as well as the labor on automotive repair. Taxing these items seems to be in keeping with the tax principle of taxing individuals who are using the resource. This type of taxation would add stability to the Road Fund. Despite these benefits, one could anticipate great challenges in changing the tax from sales to usage on vehicle parts and accessories; and greater challenges in imposing a usage tax on labor services for automotive repair.

2.4 Establish a Supplemental Vehicle Enforcement Fee (Motor Vehicle Safety Enhancement Fund)

Overview of the Supplemental Vehicle Enforcement Fee Option

This section discusses the research team's analysis of the option of establishing of a Motor Vehicle Safety Enhancement Fund. A supplemental vehicle enforcement fee could, for example, be substituted for Road Fund revenue currently used to support a portion of the Kentucky State Police. This supplemental fee would be imposed on all motor vehicle violations and would be added to the existing fines. This supplemental enforcement fee has potential as a creative financing option that could potentially contribute to the Transportation Cabinet's portion of the Kentucky State Police budget. These new funds (from the vehicle enforcement fee) would then free up the money that is currently allocated from the Road Fund to Kentucky State Police operations. The money that is freed up could then be put toward other transportation needs.

The Motor Vehicle Safety Enhancement Fund would be comprised of an add-on supplemental vehicle enforcement fee imposed on all persons written up or found to be in violation of motor vehicle laws. The establishment of this fund would be modeled after the jail fund used by the Kentucky Local Correctional Facilities Construction Authority (KLCFCA) to finance its jail construction. Many of the advantages and disadvantages of this innovative finance option, discussed in the next section, are based on previous experience with the KLCFCA.

Advantages and Disadvantages of Establishing a Motor Vehicle Safety Enhancement Fund

There are several advantages associated with the Motor Vehicle Safety Enhancement Fund. These include: (1) equity across geographic areas, different vehicle classes, and income groups;

(2) efficiency as a user fee capable of influencing driving behavior; and (3) revenue adequacy and stability.

Traffic and motor vehicle violations are non-discriminatory. They occur in all regions of the state, and by drivers of all vehicle types and from all income levels. Consistent application of the supplemental vehicle enforcement fee, therefore, introduces equity because it affects the same types of driving behavior regardless of the geographic area, income level and type of vehicle driven.

From an efficiency perspective, the supplemental vehicle enforcement fee has the benefit that it can be considered a user fee. Since all incidences of traffic and motor vehicle violations contribute to dangerous driving conditions, it makes sense that this fee be earmarked for the Kentucky State Police which plays a role in ensuring the safety of drivers. It has the added advantage that its application and use creates incentives both for drivers' compliance with motor vehicle regulations and for increased enforcement of traffic and safety regulations

The use of the Motor Vehicle Safety Enhancement Fund may, however, give rise to jurisdictional complications. Supplemental vehicle enforcement fees would apply to all enforcement actions by municipal, county, or city law enforcement personnel. Since the funds would then be earmarked for the State Police, it could be perceived that the local enforcement entities would be collecting fund for use by their state counterpart without any monetary returns. This jurisdictional and compensation issue may need to be addressed before the Motor Vehicle Safety Enhancement Fund is created. There are two options that could possible address these disadvantages. One would be to impose the supplemental vehicle enforcement fee only on citations made by the Kentucky State Police. Another option could be to introduce revenue sharing that distributes some of the Motor Vehicle Safety Enhancement Fund for use by local enforcement agencies.

Kentucky's experience with the KLCFCA indicates that fee revenues resulting from court convictions are stable and not very volatile on an annual basis. Similar stability can be expected for fee revenues stemming from motor vehicle violations. Between 1986 and 1996, annual revenue streams have fluctuated by about 6% (Denison et al. 1999). This stability is created by two important factors. The first factor is the flat fee structure. The second factor is the general consistency in the number of misdemeanors and felony convictions each year.

The Dennison et al. (1999) study also determined that the KLCFCA revenue elasticity (% change in annual revenue receipts relative to a 1% change in personal income) is close to zero (not statistically different from zero) (Dennison et al. 1999). Such inelastic revenues do not fluctuate with changes in the levels of personal income in the state, and therefore KLCFCA revenues are not as vulnerable to economic fluctuations and economic downsizings. One problem with the combined inelastic revenue and flat fee structure is that while nominal receipts may be fairly consistent, in real dollars the receipts are actually declining. The inelasticity and the flat fee charge causes vulnerability to inflation, but this problem can be overcome by periodic upward fee adjustments to generate additional revenues. These fee increases may meet with both public and political opposition.

Establishing and Implementing the Motor Vehicle Safety Enhancement Fund

To begin, the fee structure for the Motor Vehicle Safety Enhancement Fund could be set-up as a flat fee of \$5 per violation. The KLCFCA initially set its fee at \$5 for each qualifying conviction. This was later raised to \$10. However, the fee structure has remained as a flat fee regardless of the severity of the conviction and has only undergone one rate hike since its inception. For the Motor Vehicle Safety Enhancement Fund, a flat fee allows for much simpler fund administration and adds to the stability of the revenue stream. If this option was pursued, a more frequent revision of the fee would be suggested to ensure that it keeps pace with inflation and thus maintains its purchasing power.

With KLCFCA, the circuit clerk transfers to the Kentucky Finance Cabinet the court fee for KLCFCA at the end of every month. The Finance Cabinet subsequently distributes to KLCFCA its earmarked portion. It is envisioned that the same process would work similarly well for the Motor Vehicle Safety Enhancement Fund, with funds earmarked for the Kentucky State Police.

Statistics from the Kentucky State Police show that the Kentucky State Police alone issues 177,961 citations in 2002 and 135,748 citations in 2003. Given a flat fee of \$5 per citation, the supplemental vehicle enforcement fee would have generated a Motor Vehicle Safety Enhancement Fund of at least \$1.5 million if the fund was established in 2002. This estimate is based only on motor vehicle violations cited by the Kentucky State Police. If those citations by local enforcement agencies are included, the estimated amount would be much larger.

CHAPTER 3: PROJECT FINANCING OPTIONS

Chapter 2 introduced options that would enhance the Road Fund and thus generate additional revenue for a broad range of transportation projects. By contrast, this chapter instead presents two innovative finance options that can be used to finance specific projects. The first option, tax increment financing, is a means through which the Transportation Cabinet can partner with local government to obtain financing for local transportation improvement projects. So long as these projects contribute to the region's economic development and can in turn generate a growth in tax revenues (such as property tax revenues and sales tax revenues), tax increment financing is a viable option for letting those that benefit from the project (i.e. the city and those living in the tax increment financing district where the transportation improvement project will be located) pay for its costs. The second option, tolling, can and should be used for specific projects where users of the facility can feasibly be charged a toll for using the facility. Because of significant resistance to the reintroduction of tolls to free or previously freed roads, tolling should be used only for the construction, maintenance, and operation of new roads and/or bridges.

3.1 Use Tax Increment Financing for Local Transportation Projects

Overview of Tax Increment Financing (TIF)

Tax increment financing (TIF) is a mechanism that earmarks increases in tax revenues to finance public investments. The property tax is the primary tax used in connection with tax increment financing. It is a method of allocating a portion of taxes in a certain area or district to finance capital improvements for economic development purposes. In using TIF the local government or its representative issues bonds to finance public improvements in a specified district or area. The public improvements, such as development of a business park, better highway access, or improved roads, tend to cause the property value within the district to rise over time, causing an increase in property taxes. The improvements may also cause a rise in income and/or consumption, resulting in increased income and/or sales tax revenue. The difference between the existing tax collections in the district and the higher tax collections post-improvement – i.e. the tax increment – is then used to cover the debt service for the bond.

TIF is premised on the expectation that the tax revenue base (primarily property values, but sometimes income and sales) will increase as a result of a specific investment or improvement. Any increases in tax revenue can then be captured and retained within the established TIF district to help pay for the costs of the improvement. In this manner, the TIF structure captures previously authorized (but incremental) tax revenue rather than levying new taxes or fees to generate revenue.

Tax increment financing is considered a “self-financing” way to pay for economic development projects, often categorized as a development-from-within or bootstrap technique. District improvement projects are financed with tax revenue generated by the new development or

improvement. Government officials do not have to impose a new tax, but rather simply reallocate new revenue from the development to pay for development costs.

While most states use property taxes as the basis for tax increment financing projects, some states, including Kentucky and Ohio, also allow local jurisdictions to use a portion of local and state sales and income taxes as the basis for financing. According to the National Conference of State Legislatures (NCSL), 46 states have authorized, statutorily, the use of tax increment financing for development and redevelopment purposes. States that have extensively used TIF include Minnesota, Illinois and Ohio. The state of Oregon, and the City of Portland in particular, have also made good use of TIF for transportation purposes. For example, the Portland Development Commission has established urban renewal districts, similar to TIF districts, in the Portland area to extend its light rail system. In other states, TIF revenue has been used for a broad range of transportation infrastructure improvements such as construction of streets and intersections, transit centers or light rail stations, and street furniture and landscaping. This review of states' experiences with tax increment financing indicates that TIF funds have not been used for projects on state or interstate facilities.

California was among the early adopters of tax increment financing, having passed TIF-enabling legislation in the 1950s. Many states followed California's lead by adopting similar TIF legislation. This legislation came as cities and municipalities faced the challenge of increased deterioration in urban areas; at the same time federal funding for urban renewal declined and economic development initiatives waned. The height of TIF adoption occurred in the mid-1970s through the late 1980s. Early TIF laws originally focused specifically on redevelopment projects for blighted or distressed areas within urban centers. In more recent times, TIF has evolved to be a more broad economic development tool. It has been used to finance public infrastructure and also as a mechanism to attract businesses. Michigan's TIF legislation limited its use to development of roads, sewers, and other pure public good infrastructure. In 2000, the statutes were amended to include broader economic development infrastructure such as land acquisition and improvements for private businesses and incubators (Wiesniewski 2000).

Using TIF to finance local improvements or infrastructure is a complicated process involving several complex and often resource intensive steps. These steps, summarized in Figure 3.1.1, include:

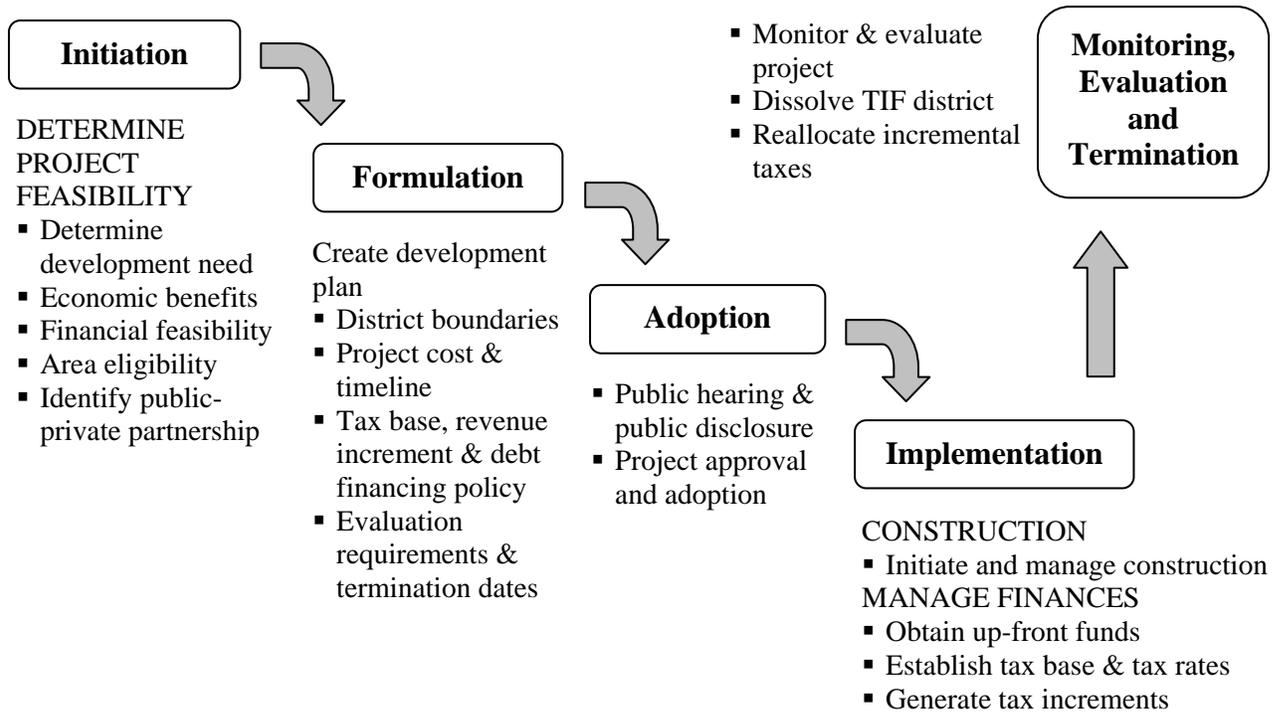
- Establish the boundaries of the district;
- Determine eligibility for TIF;
- Establish debt finance policies;
- Prepare a development plan;
- Establish tax base and tax growth rate.

In addition to the complex process, there are also several key elements of the TIF process that need to be taken into account before it can be used as a financing mechanism. These key elements are:

- Establishment of authority;
- Needs assessment;
- Redevelopment planning;
- Plan adoption

- Project finance;
- Project monitoring; and
- Plan termination

Figure 3.1.1. The Tax Increment Financing Process



Source: Adapted by the research team from American Planning Association (1985), Paetsch & Dahlstrom (1990) and Devine (2002).

Different Approaches to Tax Increment Financing

The question of how to raise the initial funding needed to finance the infrastructure improvements is a pivotal decision in using tax increment financing. There are two primary approaches that can be taken to generate this initial revenue. The first is a traditional pay-as-you-go method, where the developer would receive payments from the yearly tax increment. This method tends to slow down the development process since the construction occurs at a gradual pace congruent with growth in tax increment revenue for any given year. However, this method avoids the need for debt issuance, thus reducing the overall risk. The second financing method, more commonly used, involves the issuance of bonds. These bonds provide an immediate means for financing the TIF project. The tax increment generated by the TIF district is then used to cover all or a portion of the debt service. This bond issuance, however, entails higher risk. Failure of the development to lead to sufficient incremental tax revenue will result in failure to cover the debt service. Thus, the trade-off between the two options is that of the higher risk of using bonds and the slower development pace of the pay-as-you-go method.

So far, the general consensus has been that higher risk is more acceptable than slower development. Many municipalities and cities, however, have implemented mechanisms to reduce the risk. These strategies include designating relatively large TIF districts, utilizing back-up revenues sources, using joint financing options for TIF districts, and using loan guarantees from private developers. Designating a large TIF district ensures a larger tax base from which incremental revenue can be captured, assuming there is a growth in the tax base. Lease revenue bonds for specific revenue generating projects have been used to supplement general obligation bonds. These lease revenue bonds are serviced by the fees or revenue generated by the projects. TIF debt repayment has also been supported, in a secondary position, by an additional pledge of the governments' general fund or special tax revenues. The Redevelopment Agency of the City of San Jose, California uses joint financing of TIF districts as a means of reducing risk. Bonds are issued for all TIF-backed projects funded by the agency and tax increments from all TIF districts are pooled and jointly used to service the debt. In other cases where the private developer was more strongly involved in financing the project, a loan guarantee from the developer has been used to reduce overall project risk.

Advantages and Disadvantages of TIF

The principle advantage and strength of tax increment financing is its flexibility (Paetsch & Dahlstrom 1990). In general, the only major restrictions imposed by statutes relate to project eligibility and project term/length limitations. In most cases, TIF eligibility requirements have been very broad, allowing it to be used for a wide range of development projects. Because of this versatility, TIF has been used to pay for new infrastructure, for land acquisition and parceling, to pay for the clean up of contaminated areas (brownfields), and has even been used to pay for planning expenses, to provide job training and career education, and for the demolition and rehabilitation of buildings. Additionally, project terms are not very restrictive, with most term ceilings being twenty or thirty years. TIF can be applied to any area meeting the broad statutory standards and to any project proposal for that area that can demonstrate financial feasibility. TIF can be initiated any time a development opportunity presents itself and it is not constrained by the program allocation formulas or the political geography rules that govern the distribution of federal and state funding programs. Tax increment financing is also flexible in that it can be used as the sole source of funding or can be combined with other funding mechanisms such as federal grants and special service areas.

Tax increment financing also allows local government to leverage its existing resources to fund future development. TIF advocates argue that as a self-financing means for paying for economic development, tax increment financing makes it possible for growth to pay for growth. More importantly, some argue that by making beneficiaries of the development pay for it, TIF serves as a mechanism that explicitly ties the payment (contribution) to the benefits (compensation) (Peterson 1981).

Another advantage of tax increment financing is that it is a means through which public-private partnerships can be achieved. TIF helps fill the gap between what private developers are willing to risk on the project and what private lenders are willing to provide. TIF, therefore, is

an effective tool through which municipalities can build public-private partnerships that contribute to economic development.

The most importation disadvantage or weakness of tax increment financing is its complexity. As illustrated in the earlier discussion on the TIF process, use of tax increment financing is a resource-intensive and complicated undertaking. The process requires extensive technical, professional and legal expertise, involving a variety of actors including land planners, civil engineers, financial analysts, project developers, lawyers, and real estate professionals.

Tax increment financing also involves risk, particularly because there is the possibility of insufficient revenue. The TIF financing structure is designed to capture new tax revenues generated from increased property values expected to result from development. As a result, TIF districts must be located in areas capable of realizing a significant (and sufficient) increase in assessed property value in order to meet their debt service obligations in full and on time. However, the selection of a TIF district typically requires the area meet a finding of 'blight' which may include having a predominance of defective or inadequate street layout; roadways, bridges, or public transportation facilities incapable of handling the volume of traffic flow into or through the area. Districts that meet this requirement may not be capable of generating needed incremental tax revenues to finance the improvement projects. Following is a list of four items that that may cause revenue shortfall: first, a temporary stagnation or decline in assessed property values for the TIF district; second, a policy change that may affect property values; third, property tax abatements or exemptions; and fourth, unanticipated project costs. If the tax base does not grow as projected, debt repayments may be put in jeopardy. For projects that were initially funded by the sale of general obligation bonds, the local government would then be liable for covering the shortfall out of its general revenue.

Another disadvantage of TIF is its potential for delays in the implementation phase. Because of the complexity involved in initiating, formulating, and adopting a TIF project, more time is required to move the project from concept to construction (Paetsch & Dahlstrom 1990). This time lag introduces uncertainty into the continued feasibility of the project because many of the variables involved in determining the project's initial feasibility may change radically over the period between feasibility analysis and actual implementation.

There is also the issue of the higher cost of debt associated with bonds that are not general obligation. When lease revenue bonds or other bonds are used instead of general obligation bonds, the relative cost of TIF debt rises. In the cases when the tax increment financing debt is not backed by the "full faith and credit" of the city or state, the bond is viewed as more risky and thus requires higher interest rates. This may not be a major consideration in many states, such as Kentucky, that do not offer general obligation bonds due to constitutional or statutory restrictions.

In an opposite argument to the 'beneficiaries pay' argument used by TIF advocates, opponents of TIF cite the free-riding problem as a disadvantage of using tax increment financing. They argue that the TIF district incurs the costs of the development project, but the benefits (in the form of increased revenues, higher quality of life, etc.) accrue to the TIF district and other districts that have access to the development.

Examples of TIF Projects

TIF has been used for a wide range of development projects countrywide. Chicago has spent approximately \$60 million of TIF funds to rehabilitate and restore the historic buildings in its downtown theatre district. Philadelphia is planning to use \$62 million in TIF-backed bonds to fund the development of a \$174 million family entertainment center (Higginbotham 2000). Circle Center Mall in Indianapolis is also a prime example of a TIF-backed project. Incremental tax revenues were used by the city to pay its \$187 million share of the mall's construction costs. In Nashville, the state's tallest skyscraper – BellSouth Tower – was built using \$13 million of incremental taxes.

Some states and municipalities have also utilized TIF to finance specific transportation improvement projects. TIF has been used to pay for new road construction, road widening, road improvements, and building on/off ramps and interchanges. For example, the City of Columbus and the Ohio Department of Transportation joined forces to use tax increment financing to fund a \$25 million project to build an interchange at the Fashion Mall Parkway and Interstate 71. The project will allow drivers on I-71 to exit at the Fashion Mall Parkway interchange and will provide ramps for bypass traffic. Fremont, California has utilized tax increment financing to pay for the upgrade of four major interstate interchanges (\$50 million for construction in 1999 through 2005) and the construction of a Bay Area Rapid Transit (BART) station (Devine 2002).

Tax Increment Financing in Kentucky

Kentucky's original TIF-enabling legislation (KRS 99.750 – 99.770) was declared to be unconstitutional in *Miller v. Covington Redevelopment Authority* (539 S. W. 2d 1, 1976) and was repealed in 1985. Legislation, passed in 2002, reinstated tax increment financing (KRS 65.680 – 65.699). This TIF-enabling legislation, called the Kentucky Increment Financing Act, addressed the important elements of tax increment financing. It established that cities and municipalities have authority to use TIF. From the needs assessment perspective, a TIF district must be designated according to the requirements of 'general economic development.' Permissible development purposes are commercial, industrial, residential, and employment, with no area or property value limitations. Public notice and public hearings are required before the development plan can be adopted. Bonds are permitted for initial funding use, but the incremental taxes can only be used to service the debt for a duration up to 20 years.

The 2002 legislation, summarized in Appendix A, outlines three distinct TIF programs. The first program—*local revenue only development areas*—includes only those development projects that do not utilize state revenues and do not require review or authorization from the state. The second category—*infrastructure development areas*—includes acquisition of real estate and/or the construction or improvements within the area. Projects must be assigned to the Kentucky Economic Development Finance Authority (KEDFA) or the Tourism Development Finance Authority (TDFA) for consideration and approval. The third TIF program—*project specific development areas*—includes property, assets, or improvements for public purposes that contribute to residential, commercial, industrial, recreational, or open space purposes that

contribute to economic development. Similar to the second type, project specific development areas require consideration and approval of KEDFA or TDFA. The second option, infrastructure development areas, is more restrictive than the first option, local revenue only development areas. The third option, project specific development areas, in turn, is more restrictive than the second. However, there are more financing options available under the latter options.

There are two features of Kentucky's TIF-enabling legislation that differentiates it from other states. The first is the inclusion of sales, use, and income tax revenues as the base for determining the incremental tax revenues available for financing the project. Most other states only use property tax revenues as the base for TIF. Kentucky is also one of the few states that exempt school taxes from being included in the incremental taxes. If property values rise in the TIF district, the school district receives the incremental school tax revenues from the increased property tax revenues.

Tax increment financing has already been used in Kentucky to finance a variety of public infrastructure with economic development in mind. One example of a TIF project is the Kentucky TriModal Transpark in South Central Kentucky, which was the first development project to take advantage of the 2002 TIF legislation. The City of Louisville and Jefferson County have used tax increment financing for a variety of projects, including the recent renovation of Churchill Downs and the construction of the new Marriott Louisville Downtown hotel.

Using TIF to Fund Local Transportation Projects in Kentucky

Kentucky's statutes allows the use of tax increment financing for public improvements including transportation-related infrastructure such as new roads, sidewalks and lighting, and commercial or industrial-related transportation purposes, as long as they contribute to economic development. The research analysis suggests the possibility for the Kentucky Transportation Cabinet follow the lead of other states that have taken advantage of tax increment financing to pay for specific transportation improvements. To do so, the Transportation Cabinet will need to partner with city and/or county governments where the improvement would take place. In addition, all transportation-related TIF projects should be joint financed. This is a strategy that has successfully been undertaken by the San Jose Redevelopment Agency (SJRA). All TIF-backed projects in San Jose were initially capitalized with individual bonds for each project. The incremental revenue from all projects was then pooled together to cover the debt service of all the bonds. This is an attempt to reduce the overall risk of the projects because there is a much larger revenue pool from which to draw from to pay bond principal and interest. Some TIF districts may not generate sufficient revenue while other district may generate more than enough revenue to compensate for the other projects. Used in conjunction with general obligation bonds, the joint financing strategy results in lower interest rates and reduced risk of default. In San Jose, the joint financing strategy seems to have worked well. The SJRA is the largest tax increment producing redevelopment agency in California and currently has 22 projects in TIF districts representing approximately 25% of the city (SJRA website, <http://www.sjredevelopment.org>)

In this report, estimates of potential revenue to be collected if the Kentucky Transportation Cabinet pursues the use of tax increment financing cannot be provided. Potential revenue to be collected under a tax increment financing model is very difficult to estimate because the number, size, or specific location of jurisdictions or districts that would use this financing mechanism are not known. A larger hurdle is not knowing the actual transportation improvement projects that might be financed through its use. However, the analysis does provide guidelines and examples of projects that could be pursued using TIF. While most transportation improvements can be argued to contribute to economic development, there are some that have more explicit ties to growth. Airport improvement is one example. Construction of roads and on/off ramps leading to new business parks or shopping districts could also be undertaken using TIF. From a tourism perspective, there may be road improvements or construction that could provide better access to tourist attractions in Eastern Kentucky. In certain areas, there may be congestion relieving improvements that could be paid for using tax increment financing.

3.2 Utilize Tolling to Construct, Maintain and Operate New Roads and Bridges

Highway Tolling as a Means of Raising Supplemental Revenue

A highway or road toll is a user fee charged for utilizing a particular road or highway facility. The revenue derived from the toll is used to cover the debt service incurred to design and build a road, bridge, or tunnel; to cover maintenance and operating costs; and to provide the basis for subsequent bond issues to finance facility improvements and expansions.

Toll financing has been used as a supplemental source of revenue to meet transportation needs since American colonial days. For most states, toll financing has been undertaken on a project-by-project basis to meet urgent needs, rather than as an integral part of the states' financing strategy. The primary reason for the continued use of toll financing have been: (1) to obtain funds for urgently needed projects; (2) to shift the burden of capital, operating, and maintenance costs to specific users; and (3) to provide an immediate and direct source of revenue to discharge the obligations created (Rusch 1984).

The traditional toll concept has changed very little – tolls have retained their multi-perspective functions, as a user charge from the customer's perspective; as a security and repayment mechanism from the bondholder's perspective; and as a dedicated revenue stream to fund on-going operations and maintenance needs from an infrastructure management perspective.

Tolls are one of the purest forms of user financing for road development. They are a direct user fee charged for use of road capacity and services to the motorist. In the late nineteenth century, toll road development tapered as toll evasion as well as rail travel increased. However, by the 1930s, some states began developing public toll road programs to respond to growth in automobile ownership, the rising needs of commerce, and the absence of significant Federal-aid for highways. While private tollway companies dominated the "turnpike" industry in the earlier centuries, the toll facilities of the twentieth century have largely been authorized, constructed,

and managed by quasi-public authorities established by state and local governments. The pursuit of toll roads declined again after 1956, when the Federal Highway Act established a Federal gasoline tax to support the interstate highway system and prohibited tolling on new, Federally-funded highways.

Today, increased transportation needs and public funding constraints have fueled new interest in tolls as a revenue source to support transportation investment. The interest in toll roads today is largely an outgrowth of 1991 provisions in ISTEA and the more recent NHS Designation Act that liberalized and incentivized the use of Federal-aid in conjunction with private resources for road development purposes.

Until the passage of ISTEA, the federal government restricted states from imposing tolls on roads built with federal aid, with certain exceptions. Previously, tolls were only allowed on highways that were toll roads before becoming part of the Interstate Highway System or on highways on which the state had repaid all federal aid. Legislation passed in 1991 expanded the ability of states to establish tolls on federally aided roads, with the exception of Interstates. Today, tolls can be built on roads that receive up to 50% of their financing from the federal government.

Highway tolls have traditionally been checkpoints along limited access road systems where users pay a certain fee to use the highway. Tolls can be collected through the use of toll plazas, where workers manually collect fees from motorists, or they can be collected electronically. Electronic toll collection (ETC) is expanding dramatically, with approximately 95% of all toll collection lanes in major metropolitan areas already using ETC.

Against a backdrop of growing transportation needs and declining resources, the net result of changing policies and technological developments over the past decade is an increasing public and political acceptance of toll financing for roads, bridges and tunnels.

In today's transportation environment, traffic congestion and growing resource constraints are driving states towards considering toll pricing as much as a tool to manage demand as a mechanism to ensure a sufficient revenue stream. This shift in perspective has made tolls not just a simple financial calculation but a potentially powerful instrument of public policy.

Different Types of Tolling Practices

Tolling practices have varied significantly across states. Some states have only toll roads, while others have toll bridges and tunnels. Some toll in both traffic directions while others utilize one-way tolling for their highways and bridges. Examples of one-way tolling include the Torras Causeway in Georgia, Antioch New Bridge in California and the Crescent City Connection Bridge in Louisiana. Toll bridges in California were converted from two-way tolls to one-way tolls beginning in the late 1960s. The noted benefits of one-way tolling are: (1) lower administrative costs because of reduced staffing requirements; (2) improved traffic flow in the non-toll direction without increases in traffic delays in the toll direction; and (3) reduced air and noise pollution.

Toll collection operations also vary significantly. Some toll facilities operate ticket system toll roads, in which drivers are issued tickets on entry and tolls are collected at the end of the trip based on the distance traveled by the vehicle. Others operate toll roads using a barrier toll system where tolls are collected at toll plazas stationed at various intervals along the mainline roadway. Automated toll collection is also utilized. Some toll facilities operate using an automatic coin or token machine or have dedicated electronic toll collection lanes.

Toll Funding Sources

Toll organizations use a variety of funding sources, although the three most common have been revenue bonds, limited revenue bonds, and general obligation bonds (Rusch 1984). Other types of bonds are also utilized, somewhat less frequently, by toll organizations. These include general obligation bonds; oil franchise tax revenue bonds; subordinate bonds from a local government unit; and transportation facilities bonds.

Bonds may be issued by toll agencies on a facility-specific or system-wide basis. Agencies with existing roadways can use their established revenue base to leverage additional funds for new roadways or expansions of financing approach. Four new turnpikes were opened in the early 1990s, funded by bonds backed by the revenue-generating capacity of six established toll roads in the state. Under some state laws, tolls can be charged on any roadways until all bonds are repaid. In some cases, tolls yield substantial excess revenue after paying the principal, interest, and the costs of operating and maintaining the toll facility. The excess toll revenues are used by some agencies as a source to fund other programs. Significant excess toll revenues now accrue to many agencies in northeastern states.

Toll Rate Structures

Toll rates on roads or highways vary depending on factors such as location, traffic volumes, and other factors that may affect total costs. These rates are usually defined by the toll rate structure which includes a listing of rates for different classes of vehicles. On short routes or low cost facilities, the structure may be very simple and contain few classes. A road of considerable length and carrying both commercial and passenger vehicles, on the other hand, may have more classes. The toll structures across states and the vehicle classes making up these structures are both varied and complex. The number of axles is the most commonly used variable to determine vehicle classes, but vehicle type is also widely used. Despite being a major contributor to pavement wear, vehicle weight is rarely used. A 1997 survey of toll organizations found that at least a fourth of survey respondents used miles or distance traveled as a variable in their toll structure (Spock 1998). Most toll authorities use a combination of variables. The primary determinant of initial toll rates is the debt service requirements associated with the original bond issue.

Toll rate increases have sometimes been necessitated by bond covenant requirements where toll increases are specified in the covenant as a way to assure adequate revenues. However, toll increases have often been driven by the need for facility or system expansion and forecasted

capital expenditures. Policy considerations such as the desire to encourage use of mass transit by raising toll rates have sometimes been factors in toll increases.

Advantages and Disadvantages of Tolling

Today, many state transportation agencies see toll facilities as a way to close funding gaps for transportation projects in a time of constrained public resources. In addition, using tolls has several major advantages and disadvantages. The first advantage is that tolls, being levied on specific vehicles using specific routes, provide the most precise form of user charges. Motor fuel taxes, by contrast, are very broad based, being applicable to all types of vehicles on all roads. Because of the huge variations in costs and use from one road to another, and from one user group to another, use of motor fuel taxes necessarily imply that some road users will be paying more for than their share of costs while other will pay less. Such cross subsidization can be reduced through the use of toll financing, which can more precisely link benefits to costs. Tolls, therefore, provide the assurance that the costs of building, operating, and maintaining specific road facilities are paid for by the beneficiaries of such facilities. In addition, the incidence of paying tolls are more visible and more real to the user than the less apparent and more remote motor fuel tax. The enhanced use of toll financing allows states to draw on the public's increased willingness to pay direct user charges.

Second, toll projects are often built sooner than projects financed by other methods. Bonds issued on the basis of projected toll revenues can accelerate the availability of funds required for the project's construction, thus expediting project implementation. As such, it allows for additional transportation infrastructure to be developed more quickly than would be possible under conventional financing methods.

Third, toll financing assures an adequate source of funding for ongoing operations, maintenance and repairs, which in turn contribute to a higher level of service for toll-financed roads and highways. Toll rates are typically established at a level that provides the necessary funds for operating and maintaining the facility, beyond the initial construction costs.

An additional advantage of toll financing is that tolls can be used as a pricing mechanism through which to influence user/driver behavior as a means of managing demand and congestion. Toll rates can be structured in such a manner as to encourage users/drivers to make efficient decision as to the route and/or mode of transportation to use.

A more recent advantage of using tolls is that it can potentially foster public-private partnership. One significant trend in highway tolling practices over the past decade has been greater inclusion of and involvement by the private sector in new toll road development as a solution to the growing gap between the availability of transportation funds and project needs. Public-private partnerships in Arizona, Minnesota, South Carolina and Washington are examples of states that have incorporated varying degrees of privatization in their toll road projects.

On the other hand, there are also disadvantages associated with the use of toll financing. The two primary disadvantages are the extra costs of toll collection and double taxation. There are both tangible and intangible costs associated with toll collection. At the front end, tolls necessitate an initial investment in the collection infrastructure. Toll plazas need to be constructed and when electronic toll collection is utilized, the necessary technology must be purchased and put in place. Toll collection is costly because there is also the labor costs of those employees involved in the process. Using electronic toll collection could eliminate the need for many employees, but there still remains the labor needs to maintain the technology and infrastructure. The intangible costs, on the other hand, are due to the delays caused by toll collection. There is the cost of lost time because of the long queues at the collection point. The stop and go traffic at the toll collection point also contribute to increased fuel consumption and higher emissions.

Another drawback of tolls is that it is frequently perceived as double taxation. This is because most users/drivers also pay motor fuel taxes at the same time they incur the user fee for traveling on a toll facility. This perception of double taxation has resulted in negative public opinion regarding the use of tolls.

In addition, opponents of tolls often express concern that some states may establish toll policies where most revenue is obtained from out-of-state vehicles passing through their jurisdiction. Imposing tolls in such a manner could perhaps impede and impose undue burdens on interstate commerce.

Kentucky's Experience with Highway Tolls

Kentucky's experience with toll roads dates as far back to the 1800s with the Covington-Lexington Turnpike (now part of the Dixie Highway) and the Alexandria Pike as being among the earliest toll roads in the state. During this time, most roads outside of cities were built by private companies which established toll gates about every five miles as a way to finance the road. In 1896 the Kentucky state legislature passed an order, signed by the governor, allowing counties to raise special taxes to buy the toll roads from their private owners and free road users from paying tolls. It was not until the early 1910s, however, that the real efforts to end privately-owned toll roads began. In 1923, the last privately-owned toll road was purchased by the government and opened to free traffic.

In 2005, the Kentucky Transportation Cabinet's Division of Toll Facilities operates two toll roads. These are the Audubon Parkway, connecting Owensboro and Henderson, and the William H. Natcher Parkway, connecting Bowling Green to Owensboro. Originally, the state had ten toll roads, as summarized in Table 3.2.1. As the bonds used to finance the toll roads were paid off, the tolls were removed and the roads were "freed." The Kentucky toll rate structure is based on a combination of (1) distance traveled, and (2) vehicle class, determined by the number of axles.

Kentucky utilized two different approaches in financing its toll roads, one approach applied to toll roads on the major highway system and the other approach for special roads built to serve

coal transport needs or resource recovery roads. The Kentucky Turnpike Authority is authorized to issue revenue bonds secured by tolls, revenues, rentals, and other funds to construct turnpike projects and cover the debt service of those bonds. The Turnpike Authority also has the powers of combining two or more turnpike projects for financing purposes, and in a special provision, to lease any turnpike project to the Transportation Cabinet under the terms of a written lease. The revenue bonds are secured and made payable from lease rentals received by the Turnpike Authority from the Kentucky Transportation Cabinet. Over the course of the lease, the Transportation Cabinet has complete authority to operate the toll roads.

Table 3.2.1. Current and Former Kentucky Toll Roads

Toll Road	Length (miles)	Year Opened to Public as Toll Road	Year Became Toll-Free
Kentucky Turnpike	39	1956	1975
Bert T. Combs Mountain Parkway	76	1863	1985 and 1987
Martha Layne Collins Bluegrass Parkway	71	1966	1991
Wendell H. Ford Western Kentucky Parkway	137	1963	1987
Julian Carroll Purchase Parkway	52	1966	1992
Edward T. Breathitt Pennyrile Parkway	71	1969	1992
William H. Natcher Parkway	70	1972	Remains a toll road
Audubon Parkway	23	1970	Remains a toll road
Louie B. Nunn Cumberland Parkway	89	1972	2003
Hal Rogers Parkway	66	1974	2003

Source: Compiled by the research team from information provided by the Kentucky Transportation Cabinet and annual FHWA Toll Facilities reports.

Kentucky’s Continued Use of Highway Tolling

One option, based on this analysis, is for continued use of toll financing, to the extent practicable, to construct, maintain and operate new roads or bridges. While it would be possible to also impose tolls on existing roads, particularly the former toll roads, this option may face significant public opposition. This is because there has been substantial resistance to toll roads or previously “free” roads (or previously “freed” roads). Most successful tolling experiences have been projects where tolls were instituted at the time of construction, which suggests there is less resistance to tolls on new roads than there are to tolls on existing ones. Another important advantage behind this option is that because of ISTEA provisions, tolls can be used as a “soft match” for federal funds.

The states' experience with tolling suggests that, from an economic perspective, the most likely candidate projects for tolling are large bridges and highly traveled limited access highways. If the Transportation Cabinet is considering such projects, it would be appropriate to look into toll financing. However, several issues need to be addressed before toll financing can be utilized (Spock 1998). These issues and the research team's suggestions for addressing these issues are summarized in Table 3.2.2.

Table 3.2.2. Toll Financing Issues and Possible Solutions

Issue	Solution
What type of bond to use?	Revenue bonds backed by tolls and other relevant revenues.
How much should be charged for using the toll facility?	Toll rates should be set sufficient to cover construction, maintenance and repair of the facility. If there is a secondary goal of influencing traffic patterns to manage congestion, higher tolls can be charged for use during high demand or peak times.
Should the rates vary by vehicle type? How many vehicle classifications should the toll schedule include?	Yes. The current toll rate structure used by the Transportation Cabinet includes eight vehicle classes based on the number of axles. This seems to have worked well, and the research team suggests using the same vehicle class structures.
Should the toll system be a ticket (distance based) or barrier (fixed toll rate at each toll collection site) operation?	A ticket or distance based system can and should be used. This requires less infrastructure investment than would a barrier operation.
Should tolls be collected in both directions of travel or should one-way toll collection be used?	While one-way toll collection has many advantages over two-way toll collection, travel patterns in most parts of Kentucky do not allow the use of one-way toll collection. The more conventional two-way toll collection is appropriate for most roads and highways. For bridges, however, one-way toll collection is very much possible and presents much potential.
What types of toll collection technology should be installed?	Electronic toll collection (ETC) is the technology that research suggests has the best application for future tolling. Use of ETC allows for lower administrative costs, lower evasion rates, and even reduces the transactions costs for drivers. While up-front implementation costs may be more expensive due to the introduction of this technology, it is a much more cost effective collection mechanism in the long run.

Source: Toll financing issues identified by Spock (1998) and solutions to the issues identified by the research team.

Tolls may not necessarily be equitable from the geographic perspective. Rural areas may appear to bear more of the burden because toll roads may be the primary means for rural users/drivers to get from point A to point B. On the other hand, these rural users are the major

beneficiaries of this toll financed facility, which are often of much higher quality than non-toll facilities. In essence, the rural users are paying for the privilege of better road and highway access and better roads. From the perspective of equity across different vehicle classes, tolls can be equitable if the toll structure varies by vehicle type according to the damage incurred by the different vehicle types. The Transportation Cabinet should maintain its current toll structure which differentiates vehicles according to the number of axles. While this is not as direct a measure for impact or damage to the pavement, it is in fact a good proxy.

Toll financing can be adequate when toll rates are set such that to cover necessary costs beyond simple construction. In addition, tolls roads yield significant revenues only if users are willing to pay the price to avoid use of an alternative non-toll or free route. This strictly limits the yield potential, except if tolls are widely applied or if there are no alternative free route.

From an efficiency perspective, toll fees are direct user fees. Those who use and benefit from the toll roads, highway, or bridges are those that pay for them. In fact, it can be considered an ideal user fee system because: (1) with the use of ETC, it has a low cost of collection for both agency and user and has a low evasion rate, (2) it provides a stable revenue stream, (3) it levies higher charges for users who occasion higher costs (e.g. who cause road damage by heavy vehicles), (4) when used in conjunction with value or congestion pricing it can influence users to operate on appropriate roads and to spread traffic across time periods, and (5) its lack of sensitivity to the method of vehicle propulsion (i.e. hybrid or alternative fuel vehicles pay the same user fee as regular gasoline-powered vehicles).

Recent experience with tolling has confirmed that people do change their behavior in response to tolls, which could substantially improve the use of the road system.

While some experts argue that tolls that incorporate congestion pricing can enhance efficiency, research and experience suggest that public resistance appears to be greatest where the tolls are intended to accomplish more efficient usage (Rufolo & Bertini 2003).

One important criterion for evaluating innovative transportation finance options has been functional funding and the shift toward giving dedicated funding for different transportation functions. Toll financing meets this functional funding requirement since it is an appropriate source of revenue for specific transportation facilities which can be dedicated for construction, maintenance, repair, or operation of the specific toll road, highway or bridge.

Tolls are trip-based and apply only to users of a specific transportation facility. The administration of tolls is much more complicated compared to other transportation financing mechanisms such as vehicle registration or motor fuel taxation. Toll compliance and collection costs and toll evasion are the major issues that cause complexity in the administration of tolls.

Compliance with toll collection typically cost auto and light truck drivers between \$0.25 and \$0.40 to stop and pay a toll, even when there are no lines at the toll booths. Lines at toll booths can result in delay costs, multiple times the original costs. For tolls in the range of \$0.25 to \$0.50, the compliance and transaction costs are often greater than the revenue collected from imposition of the tolls. New toll roads with these high compliance and collection costs are often considered not viable options.

Use of electronic toll collection, as discussed in this section of the report, can reduce evasion rates by 10% or less (Reno & Stowers 1995). It is estimated that the evasion rates for such systems are approximately 2% to 5% (Rufolo & Bertini 2003). In addition, a traditional staffed toll lane typically processes 300 to 350 vehicles per lane while ETC lanes can handle over 1000 vehicles per hour within a conventional toll plaza structure and up to 1800 vehicles per hour in an open highway or bypass lane.

There is not much to be said as to the implementation of toll financing as the state has had extensive experience with toll roads. It is important to keep in mind that the perceptions of tolls as double taxation and fears of being singled out to pay tolls will be very common challenges faced in implementing tolls. An effective public education and community involvement strategy may be the single most important factor for succeeding in toll financing (Spock 1998).

CHAPTER4: CONCLUSIONS

Kentucky currently faces significant fiscal challenges in delivering much needed transportation infrastructure improvements. Traditional revenue sources and traditional financing strategies have not and are not keeping pace with the growing demands placed on the transportation system. This growth can be attributable to both greater volumes of commercial traffic and the larger numbers of drivers on the roads. Over the past 20 years, vehicle travel in the state has grown more than twice as fast as the growth in the purchasing power of the Road Fund (Mitchell & Hackbart, 2001). Faced with these challenges, the Transportation Cabinets needs to examine alternative methods for financing the state's transportation needs.

This study began with a review of alternative financing options used by state DOTs, other state agencies, and financing options available from the federal government. In addition, several other options were identified by the research team as possible innovative transportation financing options. These initial options were briefly investigated and compiled into a summary guide for presentation to and review by the Advisory Committee. This summary guide is included as Appendix A of this report. From this initial list, six options were selected for further analysis. This analysis, based on tax policy criteria, is presented in this report.

This report offers six innovative financing options that could be used to either enhance the overall Road Fund revenues or to finance specific transportation improvement projects. These options represent new tools that can be incorporated into Kentucky's financing strategy matrix to preserve and extend existing revenue sources, create new revenue streams, or introduce other payors into the mix.

The innovative finance options presented in this report have been evaluated using tax policy criteria such as revenue adequacy, efficiency, equity, simplicity and effectiveness of administration, and ease of implementation. Given these evaluation criteria, several options seem to stand out as feasible solutions to Kentucky's funding challenges. Adjusting the gas tax indexing formula and using tolls appear to be the two options with the most potential. Both forms of financing are currently used in Kentucky and implementation should not face significant political and public challenges. The new indexing formula would maintain the purchasing power of motor fuel tax revenues and enhance the stability of the revenue streams, while tolling would better integrate the 'user pays' concept into the state's financing matrix. If the state is interested in creating an entirely new revenue stream, it can pursue the supplemental motor vehicle enhancement fee option. If this were the case, a more in-depth feasibility study must be undertaken before the option is given serious consideration. Given the current political climate, options that impact the General Fund's revenue, such as imposing the usage tax on vehicle repair parts and labor may not be very popular. Tax increment financing has been widely used within economic development circles; however, so much uncertainty surrounds the use of this financing option that for most projects the risks are such that the Transportation Cabinet may end up paying for most of the projects' costs if the incremental revenues fail to materialize.

The innovative transportation financing options discussed in this report can also be characterized as either incremental changes to existing financing mechanisms, reintroduction or reapplication of previously used financing options, or true reforms or changes to the current way transportation improvements are financed. Adjustment to the motor fuel tax indexing formula is very much an incremental change. Utilization of tolling for highways and bridges involves reintroducing a mechanism the state widely utilized in the 1960s, 1970s and 1980s. Elimination of transportation-related tax expenditures and application of the usage tax to vehicle repair parts and labor call for recharacterization or redefinition of existing taxes. The two remaining financing options – establishing a supplemental motor vehicle enforcement fee and funding local projects using tax increment financing – represent true reforms in the way Kentucky addresses its financing needs. One calls for the creation of a Motor Vehicle Safety Enhancement Fund through the imposition of a supplemental vehicle enforcement fee. This is indeed a novel approach to raising funds to support the Kentucky State Police. Tax increment financing, while not new to the field of economic development, presents a new mechanism through which local governments and local users can contribute to the funding of their transportation improvement projects.

Policy change literature suggests that incremental changes are easier to institute. It is quite likely, therefore, that innovative financing options involving incremental changes and reintroduction of previously used financing mechanisms will be much easier to implement than would be those options that are truly ‘new’ or innovative. This does not necessarily mean, however, that there will be less resistance to the implementation of the former. For example, it is possible that the decline in the use of highway and bridge tolling in Kentucky was prompted by its lack of public acceptance. As such, its reintroduction as an option for enhancing the state’s transportation funding may not be easily implemented. Use of tax increment financing, on the other hand, has been greatly embraced by economic development planners without much public resistance. It is possible that, despite its new application to transportation projects, tax increment financing for local transportation improvement will meet with public approval as a means for making those that benefit from the project to pay for it.

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APPENDIX A: SUMMARY GUIDE OF INNOVATIVE TRANSPORTATION FINANCE OPTIONS

This appendix includes the Summary Guide of Innovative Transportation Finance Options presented to the Kentucky Transportation Cabinet Study Advisory Committee in February 2005. It briefly summarizes several innovative financing options identified by the research team during Task 1 of the research. Following review and presentation of this summary guide, the Study Advisory Committee selected six options for further investigation. Those six options are discussed earlier in Chapters 2 and 3.

Introduction

Traditional pay-as-you-go financing mechanisms are not adequately meeting the state's current transportation needs. Knowing the options that are available is the key to timely and efficient completion of transportation projects, in addition to ensuring adequacy of funds to meet the demands on the state's transportation system. Because of the myriad of transportation funding options available to states, knowledge of the many options and an understanding of how these options can be used for efficient transportation financing are of critical importance to Transportation Cabinet officials and staff, and to the legislature. This summary guide provides information on several innovative transportation finance alternatives that have the potential for application in Kentucky. Included are summary explanations of each innovative finance mechanism and discussions of their advantages and disadvantages.

The innovative transportation finance alternatives discussed in this summary can be categorized into 2 categories:

- (1) Revenue enhancing
- (2) Project financing

Revenue enhancing options contribute to the state of transportation finance by increasing or enhancing the Road Fund revenue base from which transportation projects and infrastructure are funded. Project financing options, on the other hand, are alternatives that will allow the Cabinet to accelerate the project construction and completion. Such acceleration reduces some of the financial uncertainties involved in funding specific transportation projects.

Why are these innovative financing options important? There are several general benefits that can be reaped by implementing these innovative options to finance transportation projects.

Among these benefits are:

- (1) Creating new revenues.

Several of these innovative financing options raise new revenue beyond the existing taxes and fees that currently contribute to the Road Fund. These options provide new funds where traditional sources would not, thus creating additional funding from which to draw on, in an environment marked by a long list of unfunded transportation improvement projects.

(2) Equity.

An added benefit is that these options are often perceived as being equitable. With most of these options, those who pay for the projects are often also the ones that benefit from them. Payments and funds for transportation projects are extracted directly from those who benefit from the improvements to the transportation system, and not from the general public.

(3) Speed and efficiency.

The innovative transportation finance options can also considerably speed the implementation of transportation projects. Such acceleration often have the advantage of reducing the overall costs of the projects because construction takes place over a shorter duration of time, and the costs are less subject to uncertainty and inflation.

Revenue Enhancing Options

Modifying the gasoline tax, using tolls, or introducing new fees may not seem innovative, but these options and others for charging user fees can provide increased revenue without significantly increasing public expenses. One of the major advantages of user fees as a revenue enhancing option is that they are equitable, as the amount paid is linked to the extent to which the user of the transportation system benefits.

The revenue enhancing options discussed in this section are:

1. Enhanced Vehicle Registration and Driver Licensing Fees
2. Index Current Motor fuel Tax
3. Convert Per Gallon (Excise Tax) Motor Fuel Tax to Pro-Rata Tax Based on Sales Price
4. Impose Tolls on Existing Highways
5. Congestion Pricing
6. Vehicle Miles Traveled (VMT) Tax
7. Privatization of Rest Area Facilities – leasing rest areas for commercial activities (fuels, food, travel support, etc.)
8. Emission Fees
9. Usage Tax on Vehicle Parts Sales and Labor
10. Instituting Goods Arrival and Distribution Fees (piggy-backed transit fee on the sales tax)
11. Establish a Supplemental Vehicle Enforcement Fee (Motor Vehicle Safety Enhancement Fee)
12. Eliminate Current Tax Expenditures (eliminate exemptions and special tax treatments)
13. Merge Road Fund into General Fund

Enhanced Vehicle Registration and Driver Licensing Fees

Description of Financing Mechanism

Vehicle registration fees generally are flat fees or are based on vehicle price or weight. Vehicle registration fees are levied at the time a vehicle is purchased, and typically, annually with a clarification on the vehicle tag. In Kentucky, Motor vehicle registration fees are composed of two major categories; passenger vehicles and commercial vehicles.

Advantages and Disadvantages

Advantages: The collection of fees is simple to implement and enforce, as infrastructure and personnel already exist to collect the tax. Imposing this tax is unlikely to prompt citizens to cross into neighboring states to register their vehicles, thus there is a collective audience from which to collect this tax. Kentucky has one of the lowest vehicle registration taxes in the country, thus an increase will both raise revenues while bringing the state's tax structure more inline with other neighboring states. Similarly, Kentucky charges one of the lowest fees to obtain a drivers license. With the number of licensed drivers continually increasing, raising the fee by a minimal amount would not highly impact citizens.

Disadvantages: A flat tax on all registration and licenses fees is a regressive tax that will affect the poor more than the rich. Also a flat tax is not responsive to inflation, thus if a flat fee remains current policy, then perhaps it should be indexed to inflation to eliminate erosion of its value

Implementation of Financing Mechanism

Kansas, California, Idaho, New Jersey, Maryland, Oregon, Ohio, Colorado, and Wisconsin have recently or are attempting to raise their respective states vehicle registration tax. Oklahoma, which has one of the highest registration rates in the country, is attempting to cut its rates. The affect of these tax increases is currently unknown.

Index Current Motor Fuel Tax

Description of Financing Mechanism

In many states, such as Kentucky, the motor fuel tax is essentially a flat rate per gallon of gasoline. Other states have statutes that allow gasoline-taxes to be indexed by formulas based on inflation measures, allowing increases in gasoline taxes that keep up with inflation. Indexing the motor fuel tax involves creating a formula that would increase the tax as a percentage of some pricing standard.

Indexing could also be based on the fuel economy rating system, where then the incentive for purchasing vehicles of higher efficiency is enhanced. This tax would be based off of the fuel efficiency rating each vehicle is given by the EPA. A percentage of the annual estimated dollar amount spent on gasoline could be collected as an annual fee when the vehicle is licensed.

Advantages and Disadvantages:

Advantages: Indexing to the consumer price index increases the tax as general consumer prices increase. This maintains the purchasing power of the Transportation Cabinet by increasing revenues as the prices increase. By stabilizing the revenue source, states will be able to maintain roads and pay for new construction.

Disadvantages: Indexing based on the CPI does seem to have the most stability, but state legislatures have raised concerns over the loss of control of the level of the motor fuel tax and its unpopularity with consumers. Indexing also does not deal with the critical issue of future declines in gasoline consumption. If the total consumption of gasoline decreases over the next decade, then indexing may not make a difference for overall revenues. This type of indexing would become less reliable as fuel efficiency standards increase and more alternative fuel and hybrid vehicles enter the market.

Convert Per Gallon (Excise Tax) Motor Fuel Tax to Pro-Rata Tax based on Sales Price

Description of Financing Mechanism

Pro rata sales tax is an additional change that could be made to the current motor fuel tax to convert it from the current excise tax form (charged on a per gallon basis) to a sales tax (pro-rata tax based on the sales price). This financing mechanism is similar to indexing the gas tax, but instead of using the CPI or the fuel economy rating as the index basis, the fuel tax would be indexed to the sales price.

Advantages and Disadvantages:

Advantages: One of the key strengths is the ease of collection of this tax. The tax can be charged to the user at pump. Sales price are expected to be tied to inflation – gasoline prices will increase with inflation – and therefore using a pro-rata motor fuel tax allows the revenue base to expand to capture of inflationary changes.

Disadvantages: The sales tax on the price of gasoline and the revenues collected would fluctuate as the price of gasoline fluctuates. Therefore, it is a less stable revenue base.

Impose Tolls on Existing Highways

Description of Financing Mechanism

Until the passage of ISTEA, the federal government restricted states from imposing tolls on roads built with federal aid, with certain exceptions. Previously, tolls were only allowed on highways that were toll roads before becoming part of the Interstate Highway System or on highways on which the state had repaid all federal aid. Legislation passed in 1991 expanded the ability of states to establish tolls on federally aided roads, with the exception of Interstates. Today, tolls can be built on roads that receive up to 50% of their financing from the federal government.

Highway tolls have traditionally been checkpoints along limited access road systems where users pay a certain fee to use the highway. Tolls can be collected through the use of toll plazas,

where workers manually collect fees from motorists, or they can be collected electronically. Electronic toll collection (ETC) is expanding dramatically, with approximately 95% of all toll collection lanes in major metropolitan areas already using ETC.

Advantages and Disadvantages

Advantages: Some strengths associated with toll pricing is that it is equitable among vehicle classes and can encourage efficient use of roads rather than road expansion. Toll fees are primarily responsive to usage and would not be responsive to inflation unless action is taken by the tolling authority to adjust toll rates. Toll roads have also proven to ease congestion in many parts of the United States and around the world.

Disadvantages: Opponents of tolls often express concern that some states may establish toll policies where most revenue is obtained from out-of-state vehicles passing through their jurisdiction. Imposing tolls in such a manner could perhaps impede and impose undue burdens on interstate commerce. Other potential weaknesses are the initial investment in infrastructure. Tolls have traditionally been costly and difficult to collect because of the need to construct toll plazas and staff them with salaried workers. Using electronic toll collection would eliminate the need for many employees, though infrastructure is still needed.

Implementation of Financing Mechanism

In 1990 the Florida Legislature enacted a plan created by the Florida Transportation Commission and the Florida Department of Transportation, to alleviate intrastate traffic problems and ease the \$31 billion shortfall in funding identified in the 20 year long-term plan. Through the issuance of bonds, which in time would be repaid through tolls collected, over 117 miles of new roads have been added to Florida's Intrastate highway system. Tolls are collected from the 449 miles statewide Turnpike system. All revenue is reinvested in the Turnpike Enterprise's statewide work program. In fiscal year 2003, approximately \$458 million was collected in toll revenue.

Congestion Pricing

Description of Financing Mechanism

Congestion pricing is a policy of charging drivers a fee that varies with the level of traffic on a congested roadway. Congestion pricing is designed to allocate roadway space in a more efficient manner. By instituting fees for using a particular road or roads, especially during peak periods, the level of congestion may be affected as motorists, either a) accept the charge, b) adopt another mode of transportation, c) take another route, or d) forego the trip. To be most effective, charges would be highest at the most congested times of day such as the morning and evening commuting periods.

Advantages and Disadvantages

Advantages: Congestion pricing can encourage citizens to use mass transit, form carpools, or use less crowded alternative routes, which in turn can reduce pollution. Recent advances in information technology make congestion pricing more technically feasible. Small, inexpensive

transponders enable each motorist to be charged a different fee to use each segment of road at particular times of the day. Charges can be applied to credit cards or on a pre-paid system.

Disadvantages: Perhaps more of a theoretical problem rather than potential weaknesses involves setting the right price, choosing the right roadways, and collecting the charges. Building toll plazas and varying the charges with the time of day and class of vehicle is complex, expensive, and politically problematic. Both rich and poor that commute by automobile, would be affected by congestion pricing. The working poor that drive to work at peak hours would be affected by a rise in commuting costs. There are also questions concerning privacy invasion.

Implementation of Financing Mechanism

Several US states and metropolitan areas are exploring the use of congestion pricing, including California, Oregon, Florida, Texas, and Washing DC. Some states have implemented pilot projects to test the effects this may have on congestion, though direct evidence is not currently available. In other countries around the world, however, congestion pricing has had considerable effect on reducing travel times and pollution, while raising substantial amounts of revenue. One of the most recent cities to implement congestion pricing is London. Two months after implementation, traffic in central London was reduced by 20%, the use of mass transit increased substantially, and freight traffic is moving goods in record time.

Congestion pricing has also been successfully used in Singapore for more than 25 years. After implementation in 1975, the total number of vehicles entering restricted zones fell 43%. Today, Singapore, like London, uses an Electronic Road pricing system to charge motorists different prices over the course of the day.

Vehicle Miles Traveled (VMT) Tax

Description of Financing Mechanism

The VMT tax is assessed as a user fee for miles traveled in a vehicle. As new technology such as hybrid cars and fuel cell vehicles make up a greater proportion of the vehicles on the road, the consumption of gasoline will decrease in the future. These decreases will create a giant hole in highway funding for the states. A VMT tax could potentially replace declining gas tax revenues.

Advantages and Disadvantages

Advantages: Current technology could be used, such as wheel hub meters, to asses the tax on an annual basis. Vehicle taxable miles could be assessed along with the vehicle licensing each year. Another advantage to this tax is the potential for the creation of additional tax zones. A state could create tax zones that encompass a highly congested area and charge a higher rate in that zone.

Disadvantages: The downside to the VMT is the potential for the misuse of the data that is received by the Global Position System (GPS). Concerns have been raised about the specter of “Big Brother” watching everything we do. Advocates of the VMT say this would not be a

problem but the potential remains for the system to be misused. Another concern that has been raised is equity in gas consumption. Currently those with vehicles that consume more gasoline per mile pay a higher tax. Under the VMT every vehicle would be charged the same rate, essentially removing the tax incentive to purchase more efficient vehicles. However, this can be overcome through the use of more advanced technology.

Implementation of Financing Mechanism

A pilot program in Oregon is testing the use of GPS in 400 vehicles to track the mileage of each vehicle. This technology requires a GPS system in each vehicle that would allow the vehicle to be tracked when it enters a “tax zone”. Another method Oregon has implemented for collecting the tax is to allow users to pay at gas stations. When a car pulls into a gas station the data is uploaded via short-range radio to a wireless receiver. The station's computer contacts the central computer and calculates the taxable miles and the tax, and sends this data to the pump. The current gas tax is deducted from the bill and the VMT tax is added in. The test program initially uses a flat rate statewide but variations to the rate could be added in the future. Approximately 400 vehicles will be equipped with an electronic odometer and a GPS receiver that can determine if the car is being driven in a tax zone. The miles in each zone will be recorded separately, so the state could be divided into multiple zones as the program progresses. This also solves the problem of distinguishing which miles are driven in state and which are driven out of state. If the pilot study works then the program can be phased in over the next 20 years, which allows time for consumers to purchase vehicles equipped with the GPS systems. As the tax is phased in those without a GPS equipped vehicle will still pay the gasoline tax, as opposed to retrofitting each vehicle.

Privatization of Rest Area Facilities – leasing rest areas for commercial activities (fuels, food, travel support, etc.)

Description of Financing Mechanism

Privatization of rest areas refers to the leasing of the rest areas to private entities, usually fast food chains. In many states, rest areas were built in the 1970's and the 1980's. This means there will be a need for large capital outlays to improve old facilities and build new ones. If rest areas were privatized, then the funds spent for capital and maintenance projects could be spent on other transportation projects, such as highways. Many of these rest areas are in prime locations, making them ideal for commercial enterprises. Developers could introduce whatever commercial venture they deem profitable and would be responsible for maintaining the lavatories, parking areas and the like.

Advantages and Disadvantages

Advantages: The potential revenues from the sale of the land alone, makes this an intriguing option. It would also minimize the annual maintenance cost for the state. The sale of the property would create new property tax revenues by putting these areas back on the tax rolls. Rest area privatization will also bring additional investment in both the retail and service sector.

Disadvantages: The commercialization of rest area has some critical issues that would need to be worked out. Also, many of the rest areas are not in ideal commercial locations. This problem could be dealt with by lowering the purchase or lease price or the states could continue to maintain the facilities. Another potential disadvantage is the competitive threat to retail providers that are located on many off ramps. Placing private establishments in a more convenient location may decrease their business.

Implementation of Financing Mechanism

Several states have used privatization and or commercialization of highway rest areas to reduce expenditures and raise revenues. For example, along the Ohio Turnpike there are 16 “service plazas” which the Turnpike Commission leases the rights to provide food services for. These sites generate \$12.3 million in revenue each year. Ohio has the flexibility to do this because this is a turnpike and not a state highway.

Emission Fees

Description of Financing Mechanism

Many states, especially those not meeting the federal clean air standards are utilizing emission fees to help reduce air pollution. Expanding this concept to make the emission fees a revenue generator for highway funding is possible. Currently most emission testing programs identify high emitting vehicles and require that they be brought into compliance with the emission standards before the vehicle can be registered with the state. In some states each vehicle is required to be tested each year. The fee that is paid covers the cost of the test and the administration of the program.

Advantages and Disadvantages

Advantages: Some of the strengths associated with charging users emission fees is the ease of collection. Fees can be collected at the same time users register their vehicles. With fee collection occurring at the same time as registration, there is little chance for tax evasion.

Disadvantages: There would have to be a rather large increase in the fees to make this a revenue generator. The increasing emission standards for newly manufactured vehicle do cause some concern with the stability of this as a revenue source. Also, as alternative fuels and hybrid powered vehicles become a greater proportion of the vehicles on the road the emission fees could drop off

Another concern is the exemption of some types of vehicles and the equity issues that this creates. For example, in Connecticut vehicles that are four or less years old are exempt, along with motor vehicles twenty five years or older, certain heavy trucks and recreation vehicles, electric powered vehicles, motorcycles, and farm vehicles. These exemptions raise some issues with compliance and the various loopholes they create.

There is also the issue of privately sold vehicles. Many states with emission testing programs require that auto dealers certify that each vehicle they sell has passed its emission test. This is

not the case with vehicles sold by private parties. This raise some compliance concerns as does vehicles that are registered out of state.

Usage Tax on Vehicles Parts Sales and Labor

Description of Financing Mechanism

Currently, a 6% tax is collected on vehicle related parts. All of these funds are added revenue for the general fund. Instead of allocating these fees to the general fund, they could go to the Road fund to support transportation projects.

Advantages and Disadvantages

Advantages: Usage taxes are already collected by retailers, therefore, infrastructure and personnel are already in place. Fees could be deposited into road fund, rather than the general fund. There would not be any additional administrative costs associated with making this change. Also, this funding mechanism would be politically acceptable, as citizens already pay this tax. Citizens are not being asked to pay additional fees. There is also little chance for tax evasion under this type of policy. In addition, sales tax revenues on parts are inversely related to the economy. During times of economic downturn, when vehicle sales tax decline, additional revenue would be generated from this tax.

Disadvantages: There may be some opposition or objection to removing a source of revenue for the General Fund. Statutory changes are also likely to be involved.

Instituting Goods Arrival and Distribution Fee (piggy-backed transit fee on the sales tax)

Description of Financing Mechanism

The movement of goods requires support of the transportation system. Some goods may tax the transportation system more than others. To account for these stresses on the transportation system, two options exist; (1) tax every good as a percentage of the sale price, or (2) tax goods based on the weight of the commodity. The second option distributes the burden of the tax to those that move the most weight and therefore place greater strains on the transportation system. Both options could be collected at the point of sale.

Advantages and Disadvantages

Advantages: This fee could be piggy backed on existing sales tax as a fee to cover the cost of moving commodities through the states transportation system. The fee could be based on the weight of the commodity or on the distance traveled within the state. Potential benefits would be the increased revenue to deal with heavy trucks and the damage they cause to the highway system.

Disadvantages: The potential problems would be the inequity of the tax in neighboring states. It could hurt retail sales in the state by reducing the wholesale marketing of commodities to the state. It could also cause a pyramiding effect on pricing of the commodity is distributed within the state and then transported to another state with a similar tax system. These problems could

complicate economic develop for the entire region. There is also the problem of cross subsidization of the final consumption of goods verses taxing goods in transit.

Establish a Supplemental Vehicle Enforcement Fee (Motor Vehicle Safety Enhancement Fee)

Description of Financing Mechanism

This fee system would entail an additional fee or surcharge on all motor vehicle enforcement actions, including speeding, reckless driving, overweight vehicles and the like. For example, there could be an additional percentage of an over weight violation added to the overweight fine, or an addition dollar amount on top of a speeding violation.

Advantages and Disadvantages

Advantages: This fee system creates an additional incentive for compliance with motor vehicle regulations and an incentive to increase enforcement of regulations. For the Transportation Cabinet specifically, this tax could replace some of the commitments to state police funding.

Disadvantages: This potential revenue source could potentially be unstable. Another potential complication that could arise is jurisdictional. State fees added to enforcement actions by municipal or county law enforcement personnel would mean that the local entities would be collecting the tax for the state without any return. This could be overcome by revenue sharing or by additional fees and charges that are assessed by the local entity. If state police start enforcing state regulation within municipal jurisdictions a concern of adequate coverage of state roads could be raised. State law enforcement entities might be encouraged to focus patrols in or near municipal and county jurisdictions, leaving areas outside the jurisdiction uncovered.

Eliminate Current Tax Expenditures (eliminate exemptions and special tax treatments)

Description of Financing Mechanism

Tax expenditures are provisions such as exemptions, exclusions, deductions, credits, deferrals, and preferential rates in tax law that result in a loss of tax revenue. Tax expenditures are approved by the legislature and become a permanent part of a state's tax law, often without being re-reviewed to determine the fiscal impacts. There are several tax exemptions that specifically impact the Road fund, including gasoline tax expenditures, liquefied petroleum gasoline tax expenditures, motor vehicle usage tax expenditures, and automotive repair services tax expenditures. Tax expenditures cost the state millions in revenue each year. Repealing tax expenditures laws that directly impact road fund revenues would provide funds that could be used for transportation projects.

Advantages and Disadvantages

Advantages: One of the main strengths associated with the elimination of transportation related tax expenditures is the ease of collection.

Disadvantages: One disadvantage to eliminating current tax expenditures is that it may conflict with previous policy commitments.

Merge the Road Fund into the General Fund

Description of Financing Mechanism

Instead of having earmarked or dedicated funds for transportation projects and services, as through a dedicated Road Fund, transportation funds would be allocated as a certain percentage of the General Fund. Using the current Road Fund revenues dollars as the allocation base, funds for transportation projects and services would be allocated from the General Fund.

Advantages and Disadvantages

Advantages: There are several benefits of this option. The first benefit is that the growth rate in transportation funds would be much higher if the Road Fund were eliminated and its revenue sources merged into the General Fund. At 16.2%, the growth rate of the General Fund has outpaced that of the Road Fund, which grew at 4.1% annually. If the two were combined, the growth in transportation funding will match that of the higher General Fund. The Road Fund also has an elasticity of income of less than 1. This inelasticity of transportation revenue sources has created persistent revenue shortages. As income levels rise, demands on the transportation system increase, but the inelastic nature of the Road Fund means that funds to construct and maintain the transportation system has not kept pace with the rise in income. The General Fund has a revenue elasticity of income greater than that of the Road Fund. This means that General Fund revenues are much more responsive to increases in the general income level in the state. As a result, allocation of transportation funds out of the combined Road and General Funds would be more responsive to increasing income levels. Merging the Road Fund into the General Fund will also make it unnecessary to distinguish between sales taxes and usage fees, since the revenue from these sources will no longer go into different funds.

Disadvantages: One potential weakness is that its implementation may require Constitutional changes to both merge the Road Fund into the General Fund and to fix the budgetary allocation for transportation projects and services as a certain dollar value of the General Fund. In addition, greater responsiveness of transportation funds to income fluctuations may result in less stable funding levels. However, the upward trend in income bodes well for increases, rather than decreases, in transportation funding levels.

Project Financing Options

The innovative finance options in the previous category all contribute to enhancing the revenue base for the Road Fund. Other innovative transportation finance options can also contribute directly to project financing, either providing supplemental funds for specific project or by accelerating projects to allow for lower costs and reduced uncertainties. These options are discussed next.

Two options previously discussed under the revenue enhancement category can also be used supplement project funds under the project financing category. These options – implementing project tolls and using tax incrementing financing for specific projects – can be directed at specific transportation projects to directly support the financing of these projects. For new road construction projects, tolls can be instituted that can directly generate the revenue to pay the debt service for the bonds issues related to the project. Tax increment financing can also be used to specifically fund individual projects.

Supplemental Project Funds

- Project Tolls (an extension)
- Tax Increment Financing for Specific Projects

For most states, the priority list for project completion extends 20 years or more. There are several options that will allow the Transportation Cabinet to accelerate its projects, either by providing adequate revenue and using revenue sources more efficiently to bring more transportation projects to completion more quickly. This section introduces several options that allow the state to implement timely transportation solutions where current funding levels are insufficient. Because projects are paid for at today's cost, such project acceleration allows the Cabinet to avoid inflation and cost uncertainties. These project acceleration options work by pre-committing federal transportation aid or other project revenues toward the debt service on bonds or notes payable issued to finance the project. They facilitate the state in meeting the need for up-front capital to fund these transportation projects by allowing the state to issue debt instruments today, and making available certain monies to pay for the debt service.

Accelerating Projects

- Grant Anticipation Revenue Vehicles (GARVEEs or GANs)
- Transportation Infrastructure Finance and Innovation Act (TIFIA)

Tax Increment Financing for Specific Projects

Description of Financing Mechanism

One innovative transportation finance option is the use of tax increment financing (TIF) to pay for transportation projects within a specific TIF district. Since its adoption in 1952, 48 states have passed laws allowing the use of TIF. How does TIF work? The local government issues bonds to finance transportation improvement projects within the TIF district, such as the construction of an on/off ramp, conversion of two-lane highways to limited access highways, widening of roads, etc. Because the transportation system is crucial for local economic growth, such transportation improvement projects are expected to result in greater property valuation and a growth of property tax revenues. This incremental increase in property taxes is then dedicated towards covering the debt service on the bond.

Use of TIF for transportation improvement projects such as construction of new roads, sidewalks, access road, and on/off ramps is allowed in Kentucky, as long as these projects contribute to local economic development. Kentucky's TIF laws allow the allocation of

incremental property tax attributable to the transportation project, in addition to the incremental sales and income taxes generated by the economic growth attributable to the improved transportation system. The TIF laws give the Governor the power to decide the types of projects worth subsidizing and how much revenue – up to 80% of the incremental taxes – should be dedicated to the transportation improvement project.

Advantages and Disadvantages

Advantages: One advantage of using tax increment financing to support localized transportation improvement projects is that it encourages local level stakeholders to become involved in the financing and funding of transportation projects. It provides additional revenue from the local level to fund transportation system improvements specific to that locality.

Disadvantages: There are several disadvantages in using TIFs. The free-rider problem is one such disadvantage. Property owners in the TIF district incur the costs of the project, but all areas in the region will share in using and benefiting from the enhanced transportation system. It is also possible that the transportation project fails to generate sufficient increases in property values, and therefore there is no enhancement to the property tax that can be used to meet the debt service of the bond originally issued to pay for the project. The local government or state’s Transportation Cabinet will then be liable to cover this shortfall from existing revenue sources.

Grant Anticipation Revenue Vehicles (GARVEEs) or Grant Anticipation Notes (GANs)

Description of Financing Mechanism

GARVEEs or GANS are a mechanism by which states can accelerate future federal revenues to fund current transportation projects. States can essentially sell bonds today and use future Federal funds to pay the debt service. Through GARVEE and GAN issuance, transportation projects will have the resources to meet the need for up-front capital costs. These issuances can increase state programs beyond the limits of the “pay as you go” approach. GARVEEs and GANs are ideally targeted to projects that will increase long-term economic activity and state revenues that can be dedicated to debt service.

Advantages and Disadvantages

Advantages: Some of the strengths associated with GARVEEs include relatively low interest rates and Federal reimbursement for interest and debt related costs. As mentioned above, GARVEEs can accelerate transportation projects and help avoid construction and ROW inflation. GARVEEs are generally more acceptable to taxpayers because of the source of repayment.

Disadvantages: The state does not have the legal authority to pledge future federal funds, so legislative action would have to occur authorizing the issuance of GARVEEs. Another weakness is that issuing GARVEEs reduces the flexibility in future fund use.

Implementation of Financing Mechanism

In 1999, Arkansas was faced with the challenge of Interstate highway needs of over \$1 billion. The state determined that GARVEE bonds would be the best option to make up for the lack of available funding. Voters approved the issuance of \$575 million in GARVEE bonds to help finance the reconstruction on an accelerated schedule. The state used future federal funds, together with the required state matching funds, and the proceeds from a diesel fuel tax increase, to retire the bonds. The GARVEE bonds allowed Arkansas to rebuild approximately 380 miles, or 60% of its total Interstate miles in five years. Since 1998, 16 other states have issued over \$7 billion in GARVEEs.

Transportation Infrastructure Finance and Innovation Act (TIFIA)

Description of Financing Mechanism

The purpose of TIFIA is to stimulate private investment in transportation, by attracting non-governmental investors to major transportation projects by demonstrating their feasibilities. By providing credit assistance and allowing state and local governments to leverage limited federal resources, TIFIA seeks to attract private investors to the long-term feasibility of each transportation project, while the federal credit assistance closes funding gaps and alleviates investor conscience. The Federal Highway Administration (FHWA) provides credit assistance to sponsors of major transportation projects in the amount up to 33% of eligible project costs. Credit assistance can take the form of loans, loan guarantees, or as a line of credit.

Project sponsors can range from state or state authority, to local governments or private companies. Eligible projects include highways and bridges, transit vehicles and facilities, intelligent transportation systems, intermodal connectors, intercity passenger rail, and public intermodal facilities on national highway system (NHS). Projects must cost at least \$100 million and they must be included in approved State Transportation Improvement Plan (STIP). Debt payment is supported by dedicated revenue streams generated by the specific project.

Advantages and Disadvantages

Advantages: There are many advantages associated with the use of TIFIA forms of assistance. TIFIA provides federal credit for up to one-third of major project costs, helping states to complete transportation projects more quickly. Interest rates track Treasury rates, thus financing relating costs may be lower. Debt service payments can be deferred for up to 5 years after project completion. TIFIA forms of assistance do not affect state apportionments.

Disadvantages: There are some issues concerning the use of TIFIA forms of assistance. Depending on market conditions and senior debt ratings, interest rates may be slightly higher than tax-exempt financing. Another concern is the high cost threshold for some projects. Only major transportation projects will qualify to receive TIFIA forms of assistance. The competitive process and the application required to receive these funds may also make this form of financing less desirable.

Implementation of Financing Mechanism

Since 2001, 9 states have entered into TIFIA credit assistance agreements for 11 projects, representing \$15.4 billion in transportation investment. One specific example includes the \$3.2

billion Central Texas Turnpike project- a toll road to serve the Austin-San Antonio corridor- received a \$917 million TIFIA loan and will use future toll revenues to repay debt on the project, including revenue bonds issued by the Texas Transportation Commission and the TIFIA loan. According to public finance analysts from two ratings firms, the project leaders were able to offset potential concerns about the uncertain toll road revenue stream by bringing the TIFIA loan to the project's financing structure.

APPENDIX B: KENTUCKY LEGISLATION ENABLING TAX INCREMENT FINANCING

The following information refers to the new legislation enacted during the Regular Session of the 2002 General Assembly clarifies previous TIF legislation. The new legislation outlines three TIF programs:

1. Local Revenue Only Development Areas

For development projects not utilizing state revenues and requiring no review or authorization from the state.

Basic criteria include the following:

- eligible projects include any public purpose project being developed for residential, commercial, industrial, recreational, or any other use, that makes a contribution to economic development
- eligible costs may be covered by up to 100% of incremental property taxes, excluding state,
- school and fire district taxes, and by employee wage assessment to be credited against local occupational license taxes not otherwise used as an incentive under a state tax credit program
- limited to no longer than a 20 year time period
- limited to no more than 500 acres approved in a twelve (12) month period
- limited to previously undeveloped land
- allows wage assessment of no more than 2% of gross wages, including wage assessments fees imposed under programs administered by KEDFA
- available for facilities that contribute to economic development as determined by local government
- development areas established before July 15, 2002 are grandfathered under existing law (KRS 65.680-65.699) prior to 2002 HB 372.

2. Infrastructure Development Areas

Applications for approval of development areas are submitted to the Cabinet for Economic Development. The Cabinet determines whether the development area application should be assigned to Kentucky Economic Development Finance Authority (KEDFA) or the Tourism Development Finance Authority (TDFA) for further consideration and approval.

Basic criteria include the following:

- eligible projects include those projects meeting the requirements of the KREDA, KIDA, KJDA, or KEOZ programs, or requirements under the Tourism Development Act
- limited to a geographic area of at least 50 acres of undeveloped land, unless otherwise approved by KEDFA or TDFA, or one acre for brownfield sites
- eligible costs may be covered by up to 100% of incremental real estate taxes, excluding school and fire district taxes
- maximum eligible costs and the percentage of the state's portion of the increment negotiated prior to approval; state participation is limited to a proportional share of the incremental taxes to be used
- each development area is approved for a period not to exceed 20 years

- each subsequent project locating in the development area may be approved for a period not to exceed 20 years and is subject to approval for both apportioned increment and eligibility
- the development area must initially be owned and under the control of a public entity
- infrastructure development includes real estate acquisition and the construction or improvement of roads or facilities needed for improvements to the real estate including site preparation and utility extensions
- local government ordinance must be adopted establishing the development area prior to approval by the appropriate finance authority.

3. Project Specific Development Areas

Applications for approval of development areas are submitted to the Cabinet for Economic Development. The Cabinet determines whether the development area application should be assigned to KEDFA or the TDFA for further consideration and approval.

Basic criteria include the following:

- eligible projects include transportation services, the availability of information technology, or a commercial, industrial, recreational, tourism, or education related project
- development area must be tied directly to a single project or investment resulting in a unique contribution to or preservation of economic vitality and quality of life of a region in the state
- must represent new economic activity in the state
- must result in a net positive economic impact to the state, considering any adverse impacts on existing businesses
- minimum capital investment \$10 million
- minimum of twenty five (25) new full-time jobs created for Kentucky residents within two (2) years of final authorization
- limited to no longer than a 20 year time period
- twenty five percent (25%) of project revenues must originate outside of Kentucky
- eligible incremental taxes include: personal income; sales and use; property taxes, excluding school and fire district property taxes; local insurance premium taxes; occupational license fees; and other state taxes as may be determined by the Revenue Cabinet
- limited to 80% of incremental revenues collected not to exceed 25% of approved project costs
- project must not be primarily devoted to retail sale of goods

KEDFA or TDFA will hire a qualified independent consultant to analyze data related to the project and development area and to prepare a project report. The consultant is to be paid by the primary project entity, defined as the project expected to generate the greatest amount of new revenues. The report shall determine the percentage of revenues generated from business not located in Kentucky and the estimated amount of net incremental taxes to be generated for 20 years. The consultant shall make a determination that if not for the designation of the development area and granting of increments, the project or development area would not occur. The Office of State Budget Director, the Finance and Administration Cabinet, and the Revenue

Cabinet shall agree to the methodology and assumptions made by the consultant in preparing the report. Based on the consultant's report and prior to approval by the appropriate finance authority, the Office of State Budget Director, the Finance and Administration Cabinet, and the Revenue Cabinet shall certify the net positive economic impact of the project, and the expected amount of incremental state revenues to be generated. Approval shall not be granted if it is determined that there is no projected net positive economic impact to the state.